The Relationship Between Perfectionism, Aversive Self-Awareness, Negative Affect And Binge Eating: An Application Of Escape Theory To Binge Eating.

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by

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Abstract

Heatherton and Baumeister (1991) proposed that binge eating is a motivated attempt to escape from negative affect arising from negative self-evaluation against unrealistically high standards. Binge eaters initially respond to negative affect by narrowing attention to the immediate stimulus environment thereby precluding meaningful thought. Normal inhibitions against eating are then eroded and binge eating occurs. This thesis examined escape theory applied to binge eating in a non-clinical, community and student sample. One hundred and twenty nine women completed questionnaires assessing dietary restraint, binge eating, perfectionism, aversive self-awareness, negative affect and avoidant coping. Analyses assessed how these constructs differed between bingers and non-bingers. In addition, correlation and hierarchical regression analyses assessed relationships between each of these variables. The results supported escape theory by demonstrating that binge eaters were characterised by higher levels of perfectionism, aversive self-awareness, negative affect and avoidant coping when compared to non-bingers. In addition perfectionism, aversive self-awareness and negative affect were positively correlated with binge eating scores. Consistent with the causal assumptions contained within escape theory, perfectionism and aversive self-awareness were both found to be significant predictors of negative affect, which in turn was a significant predictor of binge eating. These results are discussed in terms of their implications for future research and for the treatment of binge eating.

CHAPTER ONE: INTRODUCTION

1.1 Binge Eating – An Overview

Binge eating is recognised as a significant problem within modern western societies, although it is typically conceptualised as one symptom within broader syndromes such as bulimia nervosa (BN) and anorexia nervosa (AN). There is growing evidence however, that binge eating frequently occurs in the absence of other classic eating disorder symptoms such as purging, with research on prevalence rates finding that in some community samples, as many as one in four women engage in binge eating at a sub-clinical level (Cooper & Fairburn, 1983).

Much of our current understanding about bingeing behaviour is derived from models and theories that have been developed to explain binge eating within the context of BN. An exception to this is Heatherton and Baumeisters' (1991) escape model, which asserts that binge eating arises as part of a motivated attempt to escape from aversive self-awareness and negative affect. Importantly, this model emphasises the function binge eating serves for an individual, irrespective of the diagnostic context in which it occurs.

Despite the escape model's emphasis on binge eating as a functional behaviour rather than a symptom, much of its support is derived from retrospective analysis of research with women who have clinically diagnosed eating disorders. The aim of this study therefore was to test the applicability of the escape model to binge eating in a non-clinical sample.

The following section will begin by defining binge eating and considering its prevalence at both a clinical and sub-clinical level. An overview of the dominant theoretical perspectives will then be provided before considering in depth the propositions contained within escape theory and how these relate to other theoretical perspectives. Finally, evidence supporting an escape conceptualisation of binge eating will be reviewed prior to presenting the specific hypotheses that will be tested in this paper.

1.2. Definitional Issues

The Diagnostic and Statistical Manual of Mental Disorders ([DSM IV-TR]; American Psychiatric Association [APA], 2000) defines binge eating as being characterised by both of the following;

1) Eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than most people would eat in a similar period of time under similar circumstances.
2) A sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating).

A difficulty inherent within this definition is how the quantity of food is measured. To meet the DSM IV-TR definition, the binge would need to be considered objectively large by social comparison (APA, 2000). In reality many people report episodes of subjective binges, where although they perceive the amount of food they eat to be larger than normal, an outside observer would not agree. It has been argued that to limit a

definition of binge eating to its objective quantity is too narrow, as both objective and subjective binges are clinically relevant. High rates of objective binge eating episodes may indicate an overall pattern of disordered eating, and pose serious health risks in terms of obesity. Subjective binge episodes on the other hand may indicate the presence of cognitive distortions pertaining to food and eating, and hence set the scene for the development of further disordered eating behaviours (Fear, Bulik and Sullivan, 1996).

Many authors argue therefore, that it is the loss of control over eating that is the primary feature of a binge episode, rather than the quantity of food consumed (Fairburn & Wilson, 1993; Garner, Shafer, and Rosen, 1992; Beglin and Fairburn, 1992). Women who suffer from binge eating have also been found to identify their perceived loss of control over eating as the key criterion in defining a binge episode. When asked to define binge eating in their own words, the vast majority of women surveyed saw their perceived loss of control as more important than either the amount of food consumed, or the reasons motivating the binge episode (Telch, Pratt, & Niego, 1998).

1.3. Prevalence

The problems inherent in defining binge eating may contribute to the fact that the literature on prevalence rates is somewhat inconsistent. Data from community samples have shown prevalence rates for Binge Eating Disorder (BED) to range from 2 – 5% (Bruce & Agras, 1992; Spitzer et al. 1993; Fairburn, Hay & Welch, 1993). Binge eating that occurs less frequently than the twice-weekly criterion required for BED, is far more common. Cooper and Fairburn (1983) reported that 26% of a community sample identified themselves as having binged at some point in their lives.

In samples where frequency of bingeing has been measured, prevalence estimates have ranged from 3% - 7% for weekly binges, 9% for monthly binge episodes, and 21% for two monthly episodes (Cooper & Fairburn, 1983; Fairburn et al., 1993). Amongst populations with weight concerns, the frequency of binge eating increases dramatically. Prevalence of BED in samples drawn from weight control programmes, ranges from 19% to 30 % (Brody, Walsh & Devlin, 1994; Spitzer et al., 1992). This pattern of prevalence data suggests that binge eating is a behaviour that is by no means restricted to clinical syndromes, but is perhaps best thought of as lying along a continuum of normal eating to disordered eating (Thelen, Mann, Pruitt & Smith, 1987).

Consistent with other disordered eating patterns, binge eating has generally been found to be more prevalent among women than men, hence much of the research has focused on female samples. Studies that have included male samples however, have shown mixed results, suggesting that although binge eating appears to be more common in females than in males, the level of disparity between the sexes is less pronounced than that seen in anorexia nervosa and bulimia nervosa (Spitzer et al., 1992, 1993).

The mean age for BED sufferers within clinical populations has been found to be early to mid 40s, (Telch & Agras, 1994; Telch, Agras & Rossiter, 1988), however in community samples the age is significantly lower, ranging from late 20s to mid 30s (Spitzer et al., 1992). This anomaly in ages suggests that individuals with binge eating problems may suffer for several years before seeking treatment (Castonguay, Eldredge & Agras, 1995).

Despite the inconsistencies found in prevalence rates across studies, there is clear evidence that binge eating affects a growing number of men and women within the

community across a broad age range. In addition, it is clear that binge eating is by no means confined within clinical syndromes, but in fact may affect as many as one in four people at some point in their lives, independent of any clinical diagnosis (Cooper & Fairburn, 1983).

1.4. Models Of Binge Eating

Within the literature, there is wide consensus that people who binge eat represent a heterogeneous group. Although several models have been developed in an attempt to explain eating disorders, no single model appears to be comprehensive enough to explain the pathways to disordered eating. The models that currently dominate within the literature can be loosely grouped on the basis of two underlying themes. The first theme conceptualises binge eating as a consequence of eating behaviour, whilst the second theme views binge eating as a response to emotional distress (McManus & Waller, 1995).

A full review of the models of binge eating is beyond the scope of this paper, hence the following section will provide a brief description of the major theories that speak to these two underlying themes. This will then be followed by a more in-depth overview of the escape model, which attempts to integrate both these themes into a process model of binge eating.

1.4.1. Models Of Binge Eating As A Consequence Of Eating Behaviour

Psychobiological Approach

Blundell and Hill's (1993) psychobiological model posits that the appetite control system depends on a synchrony of behavioural, physiological and neurochemical events. They argue that this synchrony can be disrupted by intrinsic factors such a neurochemical or physiological defects, or by extrinsic factors such as prolonged fasting, chronic dieting, or conditioning processes. They argue that binge eating occurs once any one or combination of these factors disrupts the synchrony of the appetite control system. Although the authors cite research that provides evidence of such dysyncrony amongst eating disordered individuals, its application to binge eating has not been well researched.

Restraint Models

The link between dieting and binge eating has been well established in the literature, especially in the context of Bulimia Nervosa. It is recognised however, that dieting in itself is insufficient as a causal condition, but instead, interacts with other psychological vulnerabilities. Heatherton and Polivy (1992) suggest that dieting increases the risk of binge eating both through physiological and psychological mechanisms. They suggest that individuals who have low self-esteem and high standards regarding body shape and weight are more inclined to engage in dietary restriction in order to gain their desired physique. The resultant caloric restriction not only leads to hunger which increases the salience of food, but also interferes with a

person's ability to accurately perceive hunger and satiety cues, hence setting the scene for chaotic eating patterns. This pattern of disregulated eating, inevitably leads to violation of the individual's dietary rules, and may then escalate to full-blown binge episodes through an abstinence violation effect. This erratic eating pattern is then hypothesised to lead to a negative spiral whereby the individual's self-esteem and mood are adversely affected by these repeated dietary failures, and by failure to achieve the desired weight loss. Given the central importance of body shape to the individual, the likelihood is that attempts at dietary restriction will be renewed hence perpetuating the cycle between dietary restriction and binge eating.

Cognitive Behavioural Approach

The most widely cited accounts of binge eating are cognitive-behavioural in nature and primarily draw from Fairburn's (1981) cognitive behavioural model of Bulimia Nervosa. In addition to emphasising the role of dietary restraint, this model highlights the cognitive processes that predispose a person to diet, and maintain the diet-binge cycle. In essence, this model argues that concerns around weight and shape motivate a pattern of restricted eating patterns. The biological and psychological stress induced from this pattern of restraint, combine with rigid and perfectionistic rules about food, eating, and weight to cause a cyclical pattern of binge eating followed by more stringent efforts at dieting. Whilst at first glance this model appears very similar to restraint theories, the key difference is the primary importance placed on cognitive factors and their role in precipitating restricting behaviour.

The primary evidence cited for the cognitive behavioural model of binge eating, relates to the efficacy of cognitive behavioural therapy (CBT) in reducing bingeing behaviour. Studies applying CBT to BED have met with encouraging results. One uncontrolled study with obese binge eaters found that after 16 sessions, a mean reduction in binge episodes of 81% was achieved, with a 50% abstinence rate (Smith, Marcus & Kaye, 1992). A series of controlled studies with non-purging bulimics, compared a 10-week CBT group with wait list controls (Telch, Agras, Rossiter, Wilfley, & Kennedy, 1990). They found a 94% decrease in the frequency of binge eating, and a 79% reported abstinence rate post-treatment. In contrast, the waitlist controls decreased the frequency of their binge eating by 9%. At 10-week follow up, the abstinence rates for the CBT group had reduced to 46%, with the frequency of binge eating reduced to 69% when compared with baseline. The data from these and other studies suggest that CBT is effective in reducing the frequency of binge eating in BED patients, and approximately 50% of patients treated achieve abstinence from bingeing (Castonguay et al., 1995).

One of the key challenges for restraint models is the emerging body of research that questions the causal sequence between dieting and bingeing. Although there is a well-documented link between dieting and bingeing, results from longitudinal studies suggest that in many cases bingeing precedes the development of dietary restraint. This suggests that dieting may in fact emerge as a means of compensating for the effects of binge eating (Stice, 1998).

In addition, there is clear evidence that not all binge eaters diet. This is particularly true of obese binge eaters who report levels of restraint that are significantly

lower than normal weight bingers, and comparable to control groups (Marcus, Smith, Santelli & Kaye, 1992; Ardovani, Caputo, Todisco & Grave, 1999; Masheb & Grilo, 2002). These findings that binge eating may occur prior to or in the absence of dietary restraint suggest that other factors may potentially play a more important role in the development of bingeing for a subset of cases.

1.4.2 Models Of Bingeing As A Response To Emotional Difficulties

Affect Regulation Models

Affect regulation models posit that binge eating serves the purpose of regulating emotions. The general idea is that eating serves to reduce negative affect temporarily and therefore binge eating is maintained through negative reinforcement (Polivy & Herman, 1993). The precise manner in which negative affect is reduced is not clear, with distraction, masking, and tension reduction all being cited as possible mechanisms. Although binge eating tends to be associated with a long-term increase in negative affect, affect regulation models suggest that in the short term, binge eating continues to provide a source of stress reduction, by allowing the individual to mask their real problems and attribute their distress to overeating (Hawkins & Clement, 1984; Polivy & Herman, 1999).

Interpersonal Approach

Whilst the interpersonal approach suggests that binge eating occurs as a means of coping with negative affect, it goes one step further than affect regulation models, by

suggesting that the emotional distress is triggered in the first instance by problems in interpersonal functioning. Interpersonal problems are thought to be a critical source of low self-esteem, which in turn leads to negative affect. In the absence of alternative coping strategies, the person is thought to be at risk of binge eating as a means of managing their distressing emotions (Agras, 1991).

Although there is an absence of research testing the theoretical components of this approach, studies examining the efficacy of interpersonal psychotherapy (IPT) in treating disordered eating patterns show impressive results (Castonguay et al., 1995). Interpersonal psychotherapy for eating disorders is noted for its deliberate inattention to actual eating behaviours. Instead, it uses a variety of techniques aimed to enhance interpersonal functioning within selected areas (interpersonal deficits and disputes, role transitions, and unresolved grief).

Wilfrey et al. (1993) compared CBT with IPT amongst a group of women who regularly engaged in bingeing, in the absence of purging behaviour. They found that one year post-treatment, the frequency of binge eating was reduced from baseline by 50% for the IPT group and 55% for the CBT group. These results indicate that although IPT does not directly target eating behaviour, it is almost as effective as CBT when treating binge eating.

1.5. Escape Theory Of Binge Eating

The escape theory of binge eating considers the impact of both dietary restraint and affect regulation, and has integrated these viewpoints into a process model of binge eating (Heatherton & Baumeister, 1991). The theory is built on concepts drawn from

theories of self-awareness. These concepts include the idea that an awareness of the unified self incorporates both subjective self-awareness and objective self-awareness. Subjective states of awareness are directed towards the external environment, and therefore awareness of self is focused on what the individual is doing within their environment. In contrast, objective self-awareness refers to the tendency to focus attention on internal aspects of the self, including one's consciousness, history, physical presence, and the self as perceived by others (Duval & Wicklund, 1972).

Central to theories of self-awareness is the idea there are multiple levels of meaning, and hence multiple ways of being aware of oneself (Heatherton & Baumeister, 1991). At the lowest level, awareness is restricted to narrow, concrete awareness of simple sensations in the immediate present. At the highest level, awareness is expanded to involve broader time spans and broader implications. It is within the context of these expanded levels of self-awareness, that comparisons against standards are made, and meaningful thought occurs about ongoing identity and the implications of various events (Baumeister, 1990a). To illustrate this distinction, consider the example of stealing a chocolate bar. At the lowest level of meaning this act can be deconstructed into a sequence of muscle movements and actions whereby the bar is picked up and put into a pocket. At the highest level of meaning, these actions represent theft, and thus evoke awareness of moral implications and potential consequences.

Although self-awareness is not an inherently aversive state, it can at times become burdensome, particularly when an individual becomes aware that they are failing to meet, or live in accordance with, their personal goals and ideals (Duval & Wicklund, 1972). If these discrepancies are attributed to internal aspects of the self, the

individual is likely to experience negative affect, an inherently aversive state that they are then motivated to avoid. Duval and Wicklund (1972) suggest that this desire to avoid negative affect can result in two possible behavioural paths. The first involves reducing the discrepancy between the self and the relevant standards by changing behaviours, attitudes, traits and goals in order to move them closer to the person's perceived standard of correctness. A second and equally viable method of reducing negative affect is to reduce self-awareness so that any discrepancies that exist between the self and relevant standards are no longer salient.

To simply forget the self however, is not that easy, therefore a common strategy is to reduce self-awareness by focusing attention on concrete aspects of the immediate environment (Baumeister, 1990a). In this cognitively deconstructed state, meaningful interpretations such as attributions, comparisons against standards, and implications of one's actions are no longer accessible. Once these threatening and worrisome implications are removed from awareness, negative affect is likely to be alleviated.

Baumeister and Scher (1988) have taken this notion of escape from self-awareness and considered its relevance to a variety of self-defeating behaviours. The paradoxical nature of behaviours that sabotage a person's goals and wellbeing have long attracted psychological interest, with early theorists conceptualising self-destructive behaviour as an expression of self-hatred, or hostility turned inwards. However, after reviewing the literature on self-destructive behaviours in non-clinical samples, Baumiester and Scher (1988) concluded that self-sabotaging choices were not so much motivated by a desire to harm the self, but rather appeared to be motivated by efforts to forget the self.

Given that a desire to escape the self appeared to play a key role in self-destructive behaviour, Baumeister (1988) originally applied escape theory to sexual masochism, a behavior that epitomises a violation of both socially prescribed norms, and the intrinsic desire for self-preservation. Baumeister (1998) argued that the pain involved in sexual masochism serves as a psychological narcotic by forcing attention to be focussed on the physical self, thus obliterating broader, long term and symbolic aspects of the self. Likewise, the experiences of bondage and humiliation serve to reduce the person to an object, thereby removing broader aspects of identity. Central to this theory is that in this cognitively deconstructed state, usual inhibitions are reduced, thereby leading to an increased willingness to engage in behaviours that would under other circumstances conflict with past internal norms and standards.

Given the utility of escape theory in explaining sexual masochism, Baumiester (1990b) argued that it may have applicability to other self-defeating behaviour patterns and went on to apply it to suicide, and binge eating (Heatherton & Baumeister, 1991). Given that binge eating generally occurs within a context of deliberate efforts to reduce weight, it therefore shares with other self-sabotaging behaviour patterns, the core characteristic of directly contradicting and undermining an individual's goals and ideals. Heatherton and Baumeister (1991) proposed that like other self-defeating behaviours, binge eating is motivated by a desire to achieve a short-term escape from an aversive awareness of self. They argued that restrained eaters have high standards that may span a variety of domains but inevitably include lofty standards regarding body ideals and dietary intake. Comparison of the self against these standards inevitably leads to an awareness of self that is focussed on personal inadequacies or deficiencies. If these

perceived shortfalls are attributed to internal, stable aspects of the self, negative affect is likely to result, and in an effort to escape from these unpleasant feelings, the individual may resort to a cognitive shift whereby broadly meaningful thought is avoided. In this cognitively narrowed state, the usual inhibitions around food are eroded, and the person becomes more willing to break their dietary rules. The act of eating then facilitates further escape by narrowing attention to the simple actions and sensations involved with eating. In this cognitively narrowed state, all prior inhibitions around eating are eroded, and eating escalates into a full-blown binge episode. The potential for food as a mechanism to narrow attention is thought to be facilitated by a context of chronic caloric deprivation. Within this context, the sensory characteristics of food such as taste and texture are likely to be enhanced, thereby making them a more powerful source of distraction.

This conceptualisation of binge eating as an escape strategy has the advantage of integrating many of the insights contributed by other theories of binge eating. Rather than focusing on binge eating as a consequence of either dietary restraint or affect regulation, it incorporates both of these themes. Whilst it assumes that bingeing is primarily motivated by the desire to escape from negative affect, it also highlights how the psychological and physiological sequelae of dietary restraint may contribute to negative affect in the first instance. In addition, it explains how the effects of dietary restraint may set the scene for food to be used as the mechanism for escape.

A second advantage of escape theory is that it provides an explanation of the process of binge eating. Heatherton and Baumeister (1991) conceptualize each of the steps in this model as choice points in a decision tree. They argue that binge eating will

only occur if each step produces a particular outcome. For example, perfectionist standards per se are unlikely to lead to binge eating, unless they result in evaluative interpretations that highlight perceived shortcomings. In turn these perceived shortcomings are important only if they are attributed to aspects of the self, at which stage negative affect is likely to ensue. If these shortcomings can be attributed to external factors, negative affect is less likely, and hence there is less motivation to seek escape.

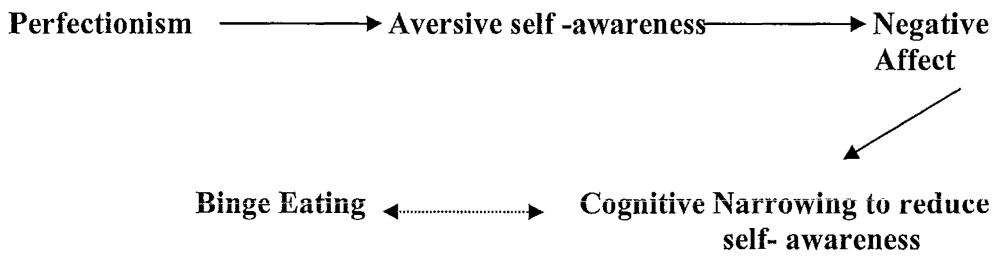


Figure 1. *Pictorial Representation of Heatherton & Baumeisters' Escape Theory of Binge Eating (1991)*

1.5.1. The Relationship Between The Individual Components Of Escape Theory And Binge Eating.

Within the literature there is evidence supporting the link between each of the components of the escape model and disordered eating. The following section will consider each component separately discussing how each is related to binge eating, and how the available data fits with the assumptions contained in the escape model.

Perfectionism

To illustrate the association between disordered eating and perfectionism, Heatherton and Baumeister (1991) cite evidence that links eating disorders to cultures that have high expectations about body shape and weight. There is no doubt that modern western cultures laud thinness as the preferred shape for women. This is amply demonstrated by the monotonous regularity with which thin models are used in advertising, and the proliferation of diets that have been developed and targeted at women to help them achieve this ideal. Several studies have illustrated the effects of this sociocultural pressure, finding that perceived pressure prospectively predicted growth in dieting (Stice, Mazotti, Krebs & Martin, 1998), and onset of bulimic symptomology (Field, Camargo, Taylor, Berkey & Colditz, 1999; Stice & Agras, 1998). In addition, exposure to thin-ideal images in the media has been shown to increase body dissatisfaction, negative affect, dieting, and bulimic symptoms (Irving, 1990; Ogden & Mundray, 1998; Stice & Shaw, 1994).

Whilst most women are exposed to similar societal pressures, not all go on to develop eating disorders. Research has shown that an important predictor is the degree to which an individual internalises this thin ideal (Stice & Agras, 1998; Stice, Mazotti, Weibel, & Agras, 2000). Experimental reductions of the thin ideal internalisation have been shown to reduce body dissatisfaction, dieting, negative affect, and bulimic symptoms (Stice et al., 2000; Stice, Chase, Stormer, & Appel, 2001). In a longitudinal study of adolescent girls, thin ideal internalisation was found to be strongly predictive of bingeing behaviour, however it did not appear to be related to the onset of compensatory methods such as purging (Stice & Agras, 1998). The authors noted the

paradoxical nature of these findings given that bingeing behaviour is likely to move individuals further from this thin ideal, whereas compensatory methods should move them closer. Escape theory however, may shed some light on this paradox. If bingeing is occurring in a context of cognitive deconstruction, then eating behaviour is no longer being guided by meaningful ideals, but rather is driven by sensory fulfillment and immediate gratification. Likewise, purging is unlikely to be considered as a compensatory option in this context, as this would require meaningful thought about the implications of the binge, and decisions about how to deal with these consequences. As discussed previously, these types of meaningful considerations are not possible in a cognitively deconstructed state.

In addition to high standards regarding body shape, the literature has also shown that perfectionist standards in general are associated with disordered eating. Large scale community studies have identified perfectionism as a specific risk factor for patients with bulimia nervosa, anorexia nervosa and binge eating disorder (Fairburn et al., 1998; Fairburn, Cooper, Doll, & Welch, 1999). In non-clinical samples similar associations are seen between disordered eating patterns and perfectionism. Pliner and Haddock (1996) conducted an experiment in which they manipulated the expectations of a performance situation and gave the participants false feedback as to how they were performing. They found that students who were concerned with their weight persisted in accepting unrealistically high performance expectations, and were most affected by the feedback they received. These results indicated an association between weight concern, conformity to others' high standards and sensitivity to critique. This association between perfectionism and sensitivity to critique supports the assumption contained

within the escape model, that perfectionism is associated with a heightened degree of self-focus, dominated by evaluative interpretation regarding how one's behaviour conforms to relevant standards.

Although the literature is clear in documenting a relationship between perfectionism and disordered eating, the nature of this relationship is considered complex for several reasons. Firstly, several studies have demonstrated that the relationship between perfectionism and disordered eating is moderated by various factors. Davis, Claridge and Fox (2000) found that a relationship between perfectionism and disordered eating was seen only when perfectionism was combined with elevated levels of anxiety and a tendency to be hypercritical. Others studies have identified the importance of self-esteem in mediating the relationship between perfectionism and binge eating (Vohs, Bardone, Joiner, & Abramson, 1999). In testing various pathway models, Pratt, Telch, Labouvie, Wilson and Agras (2001) concluded that elevated levels of socially prescribed perfectionism contribute to binge eating by undermining self-esteem, which in turn exacerbates weight and shape concerns. These observed relationships are consistent with escape theory, which asserts that the relationship between perfectionism and binge eating depends on whether perfectionist standards lead to negative self-attributions and negative affect.

Secondly, understanding the relationship between perfectionism and eating disorders is complicated by the multifaceted nature of perfectionism itself. Perfectionism is not a unitary construct, but rather incorporates personal expectations, beliefs about the expectations of significant others, and endorsement of broader socially prescribed expectations (Shafran & Mansell, 2001). A distinction has also been made

between positive perfectionism and negative perfectionism. Negative perfectionism is conceptualised as a function of avoidance of negative consequences, and encompasses concern over mistakes, parental expectations and criticism, doubts about actions, and socially prescribed perfectionism. In contrast, positive perfectionism is thought to be a function of achievement of positive consequences, and is associated with personal standards, organisation, and self and other oriented perfectionism (Terry-Short, Owens, Slade & Dewey, 1995).

It is generally agreed that positive perfection is the more adaptive given that it encourages positive striving towards particular goals. In contrast, negative perfectionism is thought to be self-defeating, in that even when standards have been met, the individual continues to experience a fear of failure, doubting their performance and perpetually worrying as to whether or not they could have done more (Shafran & Mansell, 2001). As would be expected it is this self-defeating dimension of perfectionism that has been linked to various types of psychopathology, including depression, social phobia, obsessive-compulsive disorder and panic disorder (Shafran & Mansell, 2001).

Having said this however, there is some evidence that in people with disordered eating patterns, both positive and negative perfectionism are increased. One study using a measure that differentiates between positive and negative perfectionism found that patients with eating disorders scored higher on negative perfectionism than either depressed patients, athletes or control groups. However, both the athletes and the eating disordered group also scored significantly higher on positive perfectionism scales than the other comparison groups (Terry-Short et al., 1995).

Elevated levels of positive perfectionism were also found in a study that explored the relationship between perfectionism and body image in a sample of patients with AN and BN. Body image disparagement was most pronounced when both positive and negative perfectionism were elevated (Davis, 1997). In addition, body esteem was associated with positive perfectionism, but only when negative perfectionism scores were low. Davis (1997) concluded that body image disparagement appears to be at its most pronounced when a fear of failure is combined with strong personal beliefs that thinness will bring desirable rewards.

This elevation of both positive and negative perfectionism in binge eaters may increase the likelihood that awareness of the self will be aversive. Whether discrepancies between self and relevant standards result in negative affect depends primarily on the attributions a person makes about this discrepancy. If the problems can be attributed to external factors then self-esteem is preserved and negative affect is unlikely to follow (Baumeister, 1990b). When an individual falls short of both personally held standards and socially prescribed standards however, they are more likely to attribute these failings to internal, stable aspects of themselves.

In sum, the available evidence suggests that there is a robust association between perfectionism and binge eating, although its influence appears to be mediated by other psychological factors including self-esteem and anxiety. In addition, this relationship differs from that seen between perfectionism and other psychopathologies, in that there appears to be a more complex interplay between the various dimensions of perfectionism, including those that have traditionally been considered as adaptive.

Aversive Self-Awareness

Escape theory posits that high standards inevitably lead to evaluative comparisons of the self in relation to these standards. It was argued by Heatherton and Baumeister (1991) that this process of continuing comparison results in a high level of self-awareness, and the inevitable discrepancies that emerge between the self and comparison standards result in low self-esteem.

Most theories of self-awareness draw a distinction between private and public self-awareness. Private self-awareness is the awareness of oneself from a personal perspective. In contrast, public self-awareness is the awareness of self from the imagined perspective of others (Fejfar & Hoyle, 2000). Although strong associations have been found between public self-awareness and measures of restraint (Heatherton & Baumeister 1991), data on the degree of self-awareness in bulimics and binge eaters is relatively scarce.

Much of the evidence for enhanced self-focus in binge eaters tends to be derived from qualitative observations of the egocentric thinking styles observed in people with BN (Weisberg, Norman & Herzog, 1987). Indirect support for heightened self-focus in binge eaters can be derived from a study which found scores on the Bulimia Test (Smith & Thelen, 1984) to be highly correlated with a measure of narcissism, suggesting that binge eating may be associated with a preoccupation with self. Although one study did find increased levels of public self-consciousness in people with BN (Striegel-Moore, Silberstein & Rodin, 1993), other studies have found no relationship between either private or public self-consciousness and binge eating (Beebe, Holmbeck, Albright, Noga, & Decastro, 1995; Tassava & Ruderman, 1999). Despite these anecdotal and

indirect observations of increased self-awareness in binge eaters, more empirical data is required to support this aspect of the escape model.

In contrast, the association between lowered levels of self-esteem and a variety of disordered eating behaviours is relatively robust (Eldredge, Wilson & Whaley, 1990; Mayhew & Edelmann, 1989). This association has been identified both in people with BN (Eldredge et al., 1990; Gross & Rosen, 1988; Katzman & Wolchik, 1984; Mizes, 1988) and those who binge eat in the absence of compensatory strategies (Ross & Ivis, 1999). A key difference seen in the self-esteem between restrained eaters and bulimics, is that whilst both experience low levels of physical self-esteem, restrained eaters appear to have significantly higher levels of moral self-esteem (Ruderman & Grace, 1988). This would suggest that successful restraint has come to be seen as morally commendable and hence a booster of self-esteem, whereas dietary failure may act as a direct means of undermining self-esteem.

Whilst self-esteem is typically thought of as a trait variable, scales have been developed over the last decade to measure state self-esteem (Sanftner & Crowther, 1998). One study assessed state self-esteem on a four-hourly basis over a period of a week (Sanftner & Crowther, 1998). The results showed that binge eaters experienced greater fluctuations in social and performance self-esteem than did controls. Interestingly, there was a significant increase in both self-esteem and positive affect prior to a binge episode, and the greater the increase in self-esteem and positive affect, the greater the amount of calories and fat grams consumed during the binge. In discussing these results, the authors hypothesised that after a period of successful controlled eating, what starts out as a self-nurturing food reward, becomes out of control

and escalates into a binge. This hypothesis has been supported in women with bulimia nervosa (Lehman & Rodin, 1989), and the authors argued that the results of their study suggest that the same applies to women who binge.

At first glance these findings that state self-esteem and positive affect increase prior to a binge episode appear to directly contradict the notion that binge eating is motivated by a desire to escape from self-awareness. There are however two questions that emerge from these results which raise doubts about this conclusion. Firstly, what causes self-esteem to fluctuate so dramatically within relatively short time periods, and secondly, by what mechanism does a normal food reward escalate into a full-blown binge episode? It could be argued that one explanation for the dramatic changes in affect and self-esteem is that these reflect the consequences of a shift to lower levels of awareness whereby the threatening and worrisome implications of the self have been removed. As would be predicted by escape theory, this lowered level of awareness would alleviate any negative self-attributions, thus bolstering self-esteem and reducing negative affect. This explanation would also explain why larger positive shifts in self-esteem and mood were associated with greater calorie consumption. We would expect that greater degrees of cognitive narrowing would correspond not only to greater reductions in negative affect, but also to fewer inhibitions governing eating behaviour.

Although there is considerable evidence that binge eating is associated with lower levels of self-esteem, there is a relative lack of data indicating whether this is accompanied by a heightened sense of self-focus. More research is therefore required to support the escape model's premise that binge eaters display higher levels of aversive self-awareness.

Negative Affect

Affect regulation theory suggests that heightened emotional distress increases the likelihood that people will binge eat (McCarthy, 1990). Specifically it is suggested that people find comfort in eating, and use the act of eating as a means of distracting themselves from their problems. There is indeed evidence that negative affect is a salient predictor of bulimic behaviours in adolescent girls (Stice et al., 1998), and of binge eating in overweight women (Agras & Telch, 1998). One study that looked at binge eating in a community sample of overweight women, found that although negative affect was strongly associated with binge eating, this relationship was moderated by the tendency to use disengagement as a coping style. In particular, women with relatively low levels of negative affect were more inclined to binge eat if they had a strong propensity to use disengagement as a coping style (Henderson & Huon, 2002). These findings are consistent with the assumption proposed in the escape model, that the link between negative affect and binge eating, is the desire to escape.

Dieting also appears to mediate the relationship between distress and eating. Several studies have shown that distress, particularly that which involves ego threats such as a threat to one's self image, suppresses eating in non-dieters, however increases it in chronic dieters (Heatherton, Herman & Polivy, 1991; Heatherton, Polivy, Herman & Baumeister, 1993, Rotenberg & Flood, 1999, Ruderman, 1985). One explanation for this anomaly is that binge eating serves to mask the true source of stress. Polivy and Herman (1999) conducted an experiment whereby they manipulated failure on a cognitive task and then allowed participants to have access to ice cream. They found that subjects who had failed at the task and then eaten ice cream attributed their distress

to having broken their diet, rather than to having failed the task. The authors concluded that eating served as an explanation, or a mask, to their failure-induced negative affect. Interestingly, the eating did not reduce the level of discomfort as suggested by affect regulation theories, but rather served as an external factor that the distress could be attributed to.

Not all forms of emotional distress however, trigger binge eating. Studies have shown that experimental manipulations of physical fear fail to induce overeating in either dieting or obese participants (Heatherton, Herman & Polivy, 1991). In contrast however, these same participants significantly increased their eating when exposed to situations that involved task failure, or anticipation of having to give a speech in front of an audience. Heatherton and Baumeister (1991) suggest that these results highlight the importance of self-evaluation in binge eating, as only those threats that threaten self-esteem appear to result in disinhibited eating.

Recent work indicates that differences along the dieting and negative affect dimensions may indicate the presence of subtypes of binge eaters. One study conducted with women with Binge Eating Disorder found that although moderate dieting was a central feature of binge eating, affective disturbances occurred in only a subset of cases. (Stice et al., 2001). The results of this study also revealed that when dieting was accompanied by negative affect, levels of psychopathology were increased with greater impairment in social functioning, and a poorer response to therapy. A partial replication of this study confirmed that binge eating was associated with moderate levels of restraint, and that in a subset of cases this restraint was accompanied by negative affect (Grilo, Masheb, & Wilson, 2001). Within these two subgroups however, no significant

differences were apparent in frequency of binge eating, although the combined group showed significantly higher weight and shape related concerns, impulsivity and body dissatisfaction.

Whilst there is clear evidence of a link between negative affect and binge eating, this appears to be true for only a subset of cases. This has obvious implications for the escape theory of binge eating. The central proposition of this model is that bingeing is motivated by a desire to escape negative affect, therefore its ability to explain the process of binge eating only applies to those women for whom negative affect is an issue. In saying this, the tendency for this subgroup of bingers to respond less favorably to treatment may indicate that binge eating serves different functions for women who have higher levels of negative affect, and hence requires a different treatment approach. The escape model may in these instances, provide valuable information regarding how treatment can be tailored to these individuals' specific needs and hence increase the likelihood of a favorable treatment response.

Escape Through Cognitive Narrowing

The central feature of escape theory is that there is a purposive intention to refocus and narrow attention. The binge eater is motivated to alleviate the distress brought about from the comparison of self against high standards, hence deliberately attempts to avoid all broadly meaningful thought by refocusing attention to the here and now. What is unclear is whether the binge serves to facilitate this transition into cognitive deconstruction, or whether the binge occurs as a consequence of cognitive narrowing. As such, Heatherton and Baumeister (1991) acknowledge that the

relationship between cognitive narrowing and bingeing is unlikely to be unidirectional, but is more likely to be a relationship of reciprocal influence.

The evidence to support this pattern of cognitive deconstruction is indirect. Heatherton and Baumeister (1991) cite research showing that binge eaters are characterised by greater level of dichotomous thinking than control subjects, are more susceptible to salient external cues rather than internal cues, and have been found to eat unusual and unpalatable foods during a binge episode. The authors argue that these findings are all indicative of a state of mind, in which meaningful thought has been blocked.

Research linking binge eating with dissociative tendencies also provides indirect support for the premise that binge eating may be preceded by an altered state of cognitive awareness. Women with bulimia nervosa have been found to score higher on measures of general dissociative tendencies (Abraham & Beumont, 1982; Paxton & Diggens, 1997). One study examined the relationship between dissociative experiences, negative affect and disordered eating in both women with bulimia, and women who reported occasional binge episodes (Lyubomirsky, Casper & Sousa, 2001). The results showed that the highest levels of disordered eating were found in women who reported a combination of high negative affect and dissociative experiences immediately prior to the binge episode. Furthermore, women with bulimia reported increased dissociative experiences during the binge episode and decreased feelings of stress. This pattern of results suggests that cognitive focus does appear to change prior to and during a binge episode, which is consistent with the process of cognitive narrowing described in escape theory.

Another line of research that is often cited as evidence of this cognitive narrowing in binge eating is the concept of avoidant coping. By definition avoidant coping refers to a tendency to cope with situations by avoiding thinking about them. Typical strategies used to facilitate this process include alcohol use, distraction, mental and behavioural disengagement or indeed eating (Carver, Scheier & Weintraub, 1989). Typically, coping strategies such as these focus on regulating the emotional response to stress, as opposed to focusing attention on the actual source of the stress.

Coping strategies that focus on regulating the emotional response to stress are generally grouped into emotion-focused coping styles and avoidant coping styles. Ball and Lees' (2000) extensive review of the coping literature revealed consistent findings that individuals with BN, AN or other symptoms of disordered eating use more emotion-focused and avoidant coping responses than control groups. Heatherton and Baumeister (1991) conceptualise the cognitive narrowing and distraction described in their escape model as an avoidant style of coping, and hence cite this well-established preference for avoidant coping among people with BN, as indirect support for their theory that binge eating is motivated by the desire to escape from distressing emotions.

1.5.2. Empirical Support For The Escape Model Of Binge Eating

Whilst the preceding section illustrates an association between binge eating and each of the constructs within the escape model, only a handful of studies have directly tested the assumptions of escape theory and how these apply to binge eating.

Paxton and Diggens (1997) compared aversive self-awareness, negative affect and avoidance behaviours between three groups, namely restrained/non-bingeing, restrained/bingeing and controls. They found that aversive self-awareness and negative affect were elevated in both the bingeing and restrained groups when compared to controls, yet there was no significant difference in their use of avoidant coping strategies. Although avoidant coping was significantly correlated with binge eating, it did not contribute to the prediction of binge eating once depression was controlled for. The authors concluded that avoidant coping is associated with depression, and the power of avoidant coping to predict binge eating is therefore dependent on levels of negative affect. This is consistent with escape theory, which asserts that the motivation to escape will only occur in the context of negative affect.

The results of Paxton and Diggens' (1997) study however, show that not all restrained eaters who experience negative affect and a tendency to use avoidance coping engage in binge eating. Having said this, binge eaters in their study showed significantly higher levels of negative affect than restrained eaters, which may suggest that severity of mood disturbance influences whether the desire to escape culminates in a binge.

Two studies have tested escape theory by investigating the presence of a psychological profile that incorporates the constructs outlined in the escape model. Beebe, Holmbeck, Albright, Noga and Decastro (1995) used cluster analysis techniques to test the existence of a 'binge-prone' type. Their findings partly supported the escape model in that they found higher levels of depression, anxiety, drive for thinness, perfectionism related to body image, and lower self-esteem amongst binge eaters. The

relationship between self-consciousness and binge eating however was less clear. Binge eaters reported minimally higher self-consciousness than non-bingers, although when bingeing occurred alongside dietary restraint, a relatively higher degree of self-consciousness was seen.

Tassava and Rudeman (1999) hypothesised that individuals who binge eat or have suicidal thoughts would conform to an 'escape-prone profile' characterised by negative affect, irrational thinking, higher levels of self-awareness and lower self-esteem. Their findings however only partly supported this hypothesis. Binge eaters did not differ significantly from controls except in their levels of body esteem. Subjects who reported binge eating in combination with suicidal ideation differed significantly from controls on all variables except self-awareness. The authors concluded that the escape-prone profile fits suicide ideators more readily than it does binge-eaters, however the role of self-awareness was not significant in either condition.

This contradicts the findings of a study that examined the relationship between self-consciousness and body dissatisfaction. Striegel-Moore, Silberstein and Rodin (1993) found significantly elevated levels of public self-consciousness, social anxiety and perceived fraudulence in women with bulimia and women with sub-clinical levels of binge eating when compared to controls. Each of these constructs was found to be significantly associated with body dissatisfaction. In addition, the perceived fraudulence scores differentiated all groups, suggesting that a fraudulent sense of self is associated with severity of eating pathology.

Whilst these studies have produced inconsistent results regarding the relationship between self-consciousness and bingeing, this may in part be due to the

measures used. The essence of self-awareness involves the comparison of self against relevant standards. These standards may arise from personal ideals, perceived expectations of others, or a combination of the two. Therefore, in order to measure the existence of self-consciousness, a psychometric test is needed that is comprehensive enough to tap into both the private and public aspects of self-awareness. The Self-Consciousness Scale (Fenigstein, Scheier & Buss, 1985) used in the studies testing escape prone profiles has this capacity, however only one of the subscales was used for reasons the authors did not make explicit. It could therefore be argued that failure to find a relationship between self-awareness and escape behaviours such as binge-eating and suicidal ideation is a function of the measure used rather than a true reflection of the applicability of the escape model.

Although Tassava and Rudeman (1999) concluded that their findings suggest that binge eaters do not exhibit an escape profile, this may in part be due to how binge eaters were classified in their study. Participants were classified as binge eaters on the basis of how they responded to two items on the BULIT. The first item read, "I would presently label myself a 'compulsive eater' (one who engages in episodes of uncontrolled eating)" and the second reads "In the past three months, on average how often did you binge eat (eat uncontrollably to the point of stuffing yourself)?" To be classified as a binge eater, the participants had to give a positive response to the first item, and for the second item, indicate a frequency of at least once per week. I would argue however, that classifying binge eaters on this basis relies heavily on women being willing to label themselves as bingers, which is less accurate than objectively measuring behaviours indicative of binge eating. In addition, this method assumes that binge eating

is a dichotomous construct. This notion is not supported in the literature, which instead suggests that normal eating and disordered eating fall along a continuum (Thelen et al., 1987; Cooper & Fairburn, 1983).

As can be seen very little empirical work has been done to investigate escape theory in relation to binge eating, and what data is available is plagued with inconsistencies.

1.6 The Rationale For This Research

The importance of understanding the underlying causal processes of various disorders is well recognised, particularly in terms of how this guides treatment and prevention strategies. Our current "gold standard" treatments for disordered eating however, effect lasting change in approximately half of those who are treated, suggesting that our understanding of causal mechanisms is far from complete.

Escape theory offers a promising contribution to this understanding, particularly in its emphasis in explaining the function binge eating serves for an individual. What is striking however, is that whilst this theory is well cited in the literature relatively few studies have directly tested it's applicability to binge eating. The purpose of this paper therefore, was to add to this sparse collection of research by testing the applicability of escape theory in a non-clinical sample of women who binge eat.

Two different approaches will be used to test the relevance of escape theory to binge eating. The first borrows the concept of an escape prone profile from previous studies (Tassava & Rudeman, 1999; Beebe et al., 1995), although different constructs have been selected in making up this profile. The constructs used in this study are

aligned with each of the steps in escape theory, hence include perfectionism, aversive self-awareness, negative affect, and cognitive narrowing. In addition, the measures used in this study were selected with the aim of addressing the methodological issues identified in previous studies. Specifically a measure of both public and private self-consciousness will be used in order to gain a more comprehensive assessment of self-consciousness. In addition, a continuous measure of binge eating will be used to assess both the presence and severity of bingeing behaviours.

The second approach that will be used to test the applicability of the escape theory is to examine the relationship between the variables outlined in the model. Although between-group analyses can provide support for escape theory by identifying differences between binge eaters and non-bingers on all the constructs that are hypothesised to be important, they tell us very little about how these variables interrelate. Given that escape theory attempts to explain the process of bingeing, the relationships between variables are perhaps a better indicator as to whether or not the assumptions contained within the theory apply to binge eating.

Heatherton and Baumeister (1991) outline a series of steps, which they argue contribute to binge eating. Perfectionism is hypothesised to lead to aversive self-awareness, which in turn results in negative affect. This negative affect is then hypothesised to motivate escape through cognitive narrowing /avoidant coping. They conceptualise these steps as choice points in a decision tree, whereby bingeing will result only when each step produces a particular outcome; i.e. the next step in the causal path (Baumeister, 1990). Each variable within the model can therefore be conceptualised both as a predictor variable in relation to binge eating, and also as an

outcome variable dependent on those variables that precede it on this causal path. Consequently, analyses aimed at exploring the relationships between each of the constructs outlined in the escape model will consider negative affect, avoidant coping, and binge eating separately as dependent variables.

1.6.1. Hypotheses To Be Investigated In The Present Study

1. Based on the psychological constructs outlined in the escape theory of binge eating, it is hypothesised that binge eaters will fit an 'escape-prone' psychological profile characterised by higher levels of perfectionism, aversive self-awareness, negative affect and avoidant coping, when compared to non-bingers.
2. Given that each of the constructs outlined in the escape model is considered to have a causal role in the development of binge eating, it is hypothesised that dietary restraint, perfectionism, aversive self-awareness, negative affect and avoidant coping will be positively correlated with binge eating scores.
3. Based on the causal assumptions proposed in the escape model, it is hypothesised that the results of regression analyses will reveal the following pattern of relationships:

a) Perfectionism and aversive self-awareness will both explain a significant portion of the variance in negative affect scores.

b) A significant proportion of the variance in binge eating scores will be accounted for by levels of negative affect and avoidant coping.

CHAPTER TWO: METHOD

2.1. Participants

Women were recruited to take part in this study, both from a university student population and from the community. Newspaper advertisements were placed in community newspapers covering both urban and rural Christchurch asking women who identified themselves as dieters to take part in the study. In addition, all students enrolled in both undergraduate and postgraduate psychology courses were contacted by email inviting them to take part. As an incentive all participants were entered into a draw to win one of three prizes. Of the 180 questionnaires that were distributed, 145 were returned which equated to a return rate of 81 %. Of those questionnaires returned, 16 were unable to be included in the analysis due to errors or omissions in their completion. The final sample pool therefore contained 129 participants; 77 of whom were students, and 52 recruited from the community. A summary of demographic information relating to these women is provided in the Results section.

2.2. Measurements

A battery of questionnaires was compiled to measure six variables, namely level of dietary restraint, binge eating, negative affect, perfectionism, aversive self-awareness, and coping style. In total this required the administration of seven questionnaires. Given the time commitment this would require of participants, tests were selected not only on the strength of their psychometric properties and theoretical

relevance, but consideration was also given to their length, and the degree of complexity involved in completing them.

The Dutch Eating Behaviour Questionnaire – Restraint Scale (DEBQ-Res.)

The Dutch Eating Behaviour Questionnaire (DEBQ-Res.); (Van Strein, Frijters, Bergers, & Defares, 1986) is a self-report measure designed to measure different eating styles. Factor structure analysis has showed that items load clearly load on to three factors, namely restrained eating, emotional eating, and external eating. The Restraint subscale contains ten items relating to the behaviours and intentions regarding food restriction, each of which is rated on a five-point Likert scale.

The internal consistency of the Restraint subscale is high (Cronbach's alpha = .95), and studies have found that the factor structure of the DEBQ is stable across sexes, weight categories and random samples (Allison, Kalinsky & Gorman, 1992). The DEBQ-Res. also has good face validity, is brief, and standardisation data have supported its use as a valid and reliable measure of dietary restraint in both non-clinical samples, and women with eating disorders (van Strein et al., 1986; Wardle, 1987).

The DEBQ-Res. was used in this study to measure degree of dietary restraint, as according to the escape model of binge eating, the disinhibition involved in a binge episode occurs within a context of dietary restraint, where eating is consciously monitored and restricted.

The Bulimia Test – Binge Scale

The Bulimia Test (BULIT) is a 32 item self-report measure designed to assess the presence of bulimic symptoms (Smith & Thelen, 1984). Each item is rated on a 5 point

Likert scale assessing the frequency with which specific behaviours occur. The BULIT was constructed by comparing responses of both bulimic subjects and female college students on the scale items, against clinical judgements derived from diagnostic interviews. Scale scores were found to be a reliable predictor of individual bulimic symptoms when compared with independent clinical interviews.

Factor analyses have shown that the items cluster together into 6 distinct subscales or criterion areas; namely bingeing behaviour, feelings following binges, vomiting behaviour, preferred foods eaten during a binge, menstrual irregularities, and weight fluctuations. Individual items are also included to assess laxative and diuretic abuse (Smith & Thelen, 1984). The Binge subscale contains 14 items pertaining to actual bingeing behavior, such as the amount of food consumed, speed of eating, and eating to point of physical discomfort. In addition it contains items relating to loss of control over eating, which is a key component in distinguishing normal overeating from a binge episode (Fairburn & Wilson, 1993). The items from the BULIT that Smith and Thelen (1984) identified as comprising the Binge subscale are items 1, 2, 3, 4, 8, 11, 12, 17, 18, 22, 24, 28, 31, 35. The internal reliability of the binge subscale is high with Cronbach's alpha ranging from .86 to .89 (Thelen, Mann, Pruitt & Smith, 1987).

A study that examined the validity of each of the 6 components of the BULIT, in females ranging in age from 11-21 years, offered support for the predictive validity of the Binge subscale for college age women. Results indicated however, that validity was lower for younger subjects. The authors attributed this to naivete about the clinical meaning of the concept of bingeing, as younger subjects tended to label incidents of simple overeating as a binge (Stein and Brinza, 1989). Given that the present study was

being conducted with women aged 18 and over, the BULIT Binge scale was selected as a measure of the presence and degree of bingeing behaviour.

The Hospital Anxiety and Depression Questionnaire (HADS)

The Hospital Anxiety and Depression Scale (HADS, Zigmond & Snaith, 1983) is a 14 item scale designed as a brief measure of the presence and severity of both anxiety and depression symptoms. It allows both depression and anxiety to be calculated separately and provides cut-off scores as indicators of severity of each of these states. It has been found to have good concurrent validity (Zigmond & Snaith, 1983), and internal consistency of each subscale has been recorded as .93 for anxiety, and .90 for depression (Mooray et al., 1991). It should be noted however, that this supporting data has been based on populations with medical illness.

Although initially developed for use in medically ill populations, it differs from other measures of mood state primarily in its reliance on anhedonia as a symptom, rather than somatic symptoms such as loss of energy or tiredness. This shift in emphasis is based on the idea that symptoms such as low energy, fatigue and sleep disturbance may be attributable to physical illness rather than mood state per se (Zigmond & Snaith, 1983). This rationale makes the HADS an appropriate mood screen in populations with restricted or disordered eating patterns, as once again symptoms such as fatigue and flagging energy may be an artefact of disrupted eating patterns, rather than a true reflection of mood.

The capacity of the HADS to assess both depression and anxiety make it a more comprehensive indicator of negative affect than instruments that focus on either

depression or anxiety alone. Indeed it's performance as a screening device has been found to be enhanced when scores on the two subscales are summed (Razavi, Delvaux, Farvacques & Robaye, 1990). Given the relative comprehensiveness of the HADS, it was selected as the measure of negative affect in this research.

The Positive and Negative Perfectionism Scale (PANPS)

The Positive and Negative Perfectionism Scale (PANPS; Terry-Short, Owens, Slade & Dewey, 1995) is a measure of perfectionism containing 40 items, each rated on a 5- point scale. It differentiates perfectionism into two subtypes; perfectionist behaviour as a function of positive reinforcement, and perfectionist behaviour as a function of negative reinforcement. Items included in the PANPS were generated from the judgements of experienced clinicians, together with items rearranged and adapted from other scales.

Although there is an absence of independent data to confirm the psychometric properties of the PANPS, the theoretical basis upon which this scale was developed appears to be particularly relevant to populations with disordered eating. Although negative perfectionism is generally considered to be more maladaptive and more closely associated with psychopathology, there is some evidence that in people with disordered eating, positive perfectionism is also elevated. This is not surprising given the positive social rewards associated with a thin physique and with successful dietary control (Terry-Short et al., 1995; Davis, 1997; Davis, Claridge & Fox, 2000). The PANPS was therefore included in the test battery based on its strength in delineating these two

aspects of perfectionism, both of which appear to play a critical role in the development and maintenance of eating disturbances.

The Self-Consciousness Scale - Revised (SCSR)

The Self-Consciousness Scale-Revised (SCSR; Fenigstein, Scheier & Buss, 1985) consists of two subscales measuring self-focus or self-consciousness. The first subscale measures Public Self-consciousness, which assesses awareness of the self as the object of others' scrutiny. The Private Self-consciousness subscale focuses on more covert aspects of the self, such as privately held beliefs, aspirations, values and feelings. In addition the SCSR incorporates a subscale of social anxiety which is conceptualised as a particular reaction to focusing on the public self.

Each of the three subscales has been found to have acceptable internal consistency (Private Self-Consciousness scale .75, Public Self-Consciousness .84, and Social Anxiety Scale .79). In addition test-retest reliability estimates range from .74 - .77 indicating that the SCSR scale possesses reasonable stability across time (Scheier & Carver, 1985).

The complete SCSR was administered to provide a comprehensive measure of self- awareness, as the escape theory of binge eating does not assume that any one aspect of self-awareness is any more relevant to binge eating than another. Rather it is the degree of self-awareness that is thought to be instrumental (Heatherton & Baumeister, 1991).

The Rosenberg Self-Esteem Scale (RSE)

The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) is a 10-item questionnaire designed to assess self-esteem or perceived self-worth. Half the items are expressions of positive self-esteem, and half are negative items, which require reverse scoring. Higher scores on the SES are associated with lower self-esteem. The RSE has been widely used in research over the last three decades, and research has documented the reliability and validity of this scale (Demo, 1985; Rosenberg, 1979).

The RSE was included in the test booklet as a measure of negative self-worth, that when combined with the scores on the Self-Consciousness Scale, would provide an aggregate measure of aversive self -awareness.

The COPE

The COPE (Carver, Scheier & Weintraub, 1989) is a multidimensional coping inventory that can be used to assess both situational coping, and more general dispositional coping styles. It contains 13 distinct subscales which respectively measure active coping, planning, seeking instrumental social support, seeking emotional social support, suppression of competing activities, turning to religion, positive reinterpretation and growth, restraint coping, acceptance, focusing on and venting emotions, denial, mental disengagement and behavioural disengagement. Factor analysis supports the validity of the individual subscales, although there was some overlap found between the instrumental and emotional social support subscales, and the active and planning scales as would be expected given the relatedness of these constructs.

The concept of escape described within the escape model of binge eating refers to a motivated attempt to avoid the negative feelings associated with aversive self-awareness, hence it would seem reasonable to expect that avoidant coping styles are elevated in women who binge. As such, the dispositional version of the COPE was administered, and scores summed on the scales measuring denial, mental disengagement, behavioural disengagement, and use of alcohol and drugs. All of these subscales reflect a particular aspect of avoidant coping. Denial refers to direct attempts made to deny the reality of the stressful event, whereas the disengagement scales look at specific ways of withdrawing from the stressor. Mental disengagement refers to psychological disengagement from the goal that the stressor is interfering with through methods such as daydreaming, sleeping or self-distraction. Behavioural disengagement refers to a tendency to give up or withdraw effort from any attempts to attain the goal that the stressor is interfering with. Given that each of these subscales implies a state of cognitive narrowing, the sum total of these four scales was used as a measure of cognitive deconstruction.

Carver et al. (1989) found that the subscales had varying levels of internal consistency. Although data was not available for the alcohol and drug subscale, Cronbach's alpha for the other relevant subscales are as follows: Denial = .71, Behavioural disengagement = .63, Mental disengagement =. 45. Likewise the test-retest reliability varied across these four subscales with correlational measures ranging from .54 to .66. These data indicate that in combination, the four subscales provide a moderately reliable measure of dispositional avoidant coping.

2.3. Procedure

A test booklet was compiled, which included the abovementioned questionnaires, together with a demographic data sheet, requesting age, ethnicity, height and weight details. In addition, a consent from was included and an information sheet outlining the purpose of the study, and whom to contact if participants wished to discuss any details of the research (see appendix). In order to control for practice or priming effects the order in which the questionnaires were presented was varied, resulting in 14 different versions of the questionnaire booklet. The booklets were then posted to each participant, and were returned by reply paid post. The participants were instructed to retain the information sheet for future reference.

All participants completed the same questionnaires, albeit in a different order, and were given the same information regarding the purpose of this research. The study was described as "an investigation of how a person's eating patterns may be affected by how they think".

2.4. Data Analysis

Data analysis was performed using Statistica (Version 6), and SPSS (Statistical Package for Social Sciences, Version 11).

CHAPTER 3: RESULTS

3.1. Demographic Data

The total sample consisted of 129 participants, 52 recruited from the community and 77 from amongst psychology students. The ethnic composition of the total sample was 4% Asians, 5% Maori and 91% European. For each participant, Body Mass Index (BMI) scores were calculated by dividing their weight in kilograms by their height in metres squared (Bulik, 1994). Six of the participants did not complete their weight and height details, therefore BMI scores were only available for 123 of the participants. Table 1 provides a summary of the demographic data.

Table 1. *Summary of Demographic Data and BMI Scores.*

	Total Sample N= 129		Community Subset n = 52		Student Subset n=77	
	Age	BMI n=123	Age	BMI n=50	Age	BMI n=73
Mean	29y 11m	25.54	41y 1m	28.89	22y 4m	23.25
Standard Deviation	12.84	5.50	12.27	5.79	5.74	3.90
Median	23	23.88	42	27.55	21	22.41
Minimum	18	17.53	19	18.22	18	17.53
Maximum	64	41.40	64	41.40	43	38.97
Skewness	.98	1.077	-0.07	0.40	1.92	1.89
Kurtosis	-0.24	0.42	-0.95	-0.79	3.36	4.88

Independent sample T-tests were performed for each variable measured to assess the significance of any differences between the community and student groups. For

these and all subsequent analyses, alpha was set at $p \leq .05$. Mean age was found to be significantly higher within the community group than in the student group [t (127) = 11.66; $p <. 01$]. This age difference, together with the positively skewed distribution of ages found in the student group would be expected given the disproportionate representation of younger people found in university populations. In addition, mean BMI scores were significantly higher in the community sample [t (121) = 6.46; $p <$ .01].

3.2. Descriptive Information for the Variables Measured

The following section contains a brief outline of how the measures relating to each variable were scored, together with information regarding the distribution of scores and the significance of any differences between the community and student groups. To ascertain whether there was a significant difference between community and student groups, independent sample t-tests were performed for each variable measured. A summary of the means and standard deviations for each variable is presented in Table 2.

Table 2. *Means and Standard Deviations for all Variables Measured*

	Total Sample N=129		Community Subset n=52		Student Subset n=77	
	Mean	SD	Mean	SD	Mean	SD
Restraint	33.69	7.60	34.21	7.58	33.34	7.63
Total Perfectionism	134.63	20.38	133.71	22.18	135.25	19.20
Positive Perfectionism	71.96	10.66	70.10	12.58	73.22	9.00
Negative Perfectionism	62.67	14.11	63.62	14.64	62.03	13.81
Aversive Self-Awareness*	0.00*	1.57*	-0.14*	1.64*	0.09*	1.53*
♦ Self-Consciousness	40.50	9.80	38.37	9.30	41.95	9.92
♦ Self-Esteem	22.44	4.93	22.83	5.50	22.18	4.52
Negative Affect	13.74	6.19	14.21	6.90	13.43	5.68
Avoidant Coping	27.87	6.18	27.25	5.53	28.29	6.58
Binge Eating	32.73	10.91	35.96	12.21	30.55	9.41

* Consists of the sum of standardised scores of self-consciousness and self-esteem

3.2.1. Restraint

Each item on the Dutch Eating Behaviour Questionnaire-Restraint Scale (DEBQ-Res.) was scored from 1 to 5 based on frequency of restricting behaviour. A score of 1 represented a response of 'Never', with 5 representing a response of 'Very Often'. These item scores were then summed to give a total measure of dietary restraint, with a higher score representing a greater degree of restraint.

Participants' scores were found to be normally distributed and no significant differences were seen in the restraint scores between the community and student samples.

3.2.2. Perfectionism

The 40 items included in the Positive and Negative Perfectionism Scale (PANPS) were scored 1 to 5, with 1 representing a response of 'Strongly Disagree', and 5 representing 'Strongly Agree'. The item scores were then summed to provide a measure of Total Perfectionism. Subscale scores for Negative Perfectionism and Positive Perfectionism were also calculated. A Negative Perfectionism score was calculated by summing the responses on items 1, 4, 5, 7, 8, 10, 11, 12, 13, 15, 17, 20, 22, 26, 27, 31, 33, 36, 38, 39. The Positive Perfectionism score consisted of the sum of items 2, 3, 6, 9, 14, 16, 18, 19, 21, 23, 24, 25, 28, 29, 30, 32, 34, 35, 37, 40.

Total perfectionism scores and scores calculated for each subscale were normally distributed, with no significant differences identified between student and community samples.

3.2.3. Aversive Self-Awareness

Two separate measures were used to measure aversive self-awareness. The first measure employed was the Self-Consciousness Scale Revised (SCSR). The 22 items contained in the SCSR were scored from 0-3, with 0 representing a response of 'not at all like me', and 3 representing a response of 'a lot like me'. The exceptions to this were items 8 and 11, which were reverse scored. The sum of the total items provided a measure of Total Self-Consciousness, with a higher score indicating a greater degree of self-consciousness. Three subscale scores were also obtained; Private Self-Consciousness (items 1,4,6,8,12,14,17,19,21); Public Self-Consciousness (items 2,5,10,13,16,18,20) and Social Anxiety (items 3,7,9,11,15,22).

The second measure used was the Rosenberg Self-Esteem Scale (RSE). Each of the 10 items was scored from 1 – 4, with a response of 'Strongly Agree' earning a score of 1, and a score of 4 representing a response of 'Strongly Disagree'. Items 2,5,6,8 and 9 are all expressions of negative effect, therefore these items were reverse scored. A higher score on the RSE indicates lower self-esteem.

In order to obtain a single measure of aversive self-awareness, both the Total Self-Consciousness score and the Self-Esteem score were converted into z-scores and summed. The scores on both the SCSR and RSE were normally distributed, and significantly correlated with one another [r (129) = 0.24; $p < .05$]. Although no significant differences were found in aversive self-awareness between the student and community groups, students scored higher on the SCSR when compared to the community sample [t (127) =2.06; $p < .05$]. No between groups differences were found for self-esteem.

3.2.4. Negative Affect

The response options differed for each item on the Hospital Anxiety and Depression Scale (HADS), however each item was scored from 0-3, with 0 indicating an absence of negative affect, and 3 representing frequent occurrences of negative thoughts and feelings. Accordingly, a high score represents a greater degree of negative affect. The items were divided into two subscales, namely Anxiety (the sum of the odd numbered items) and Depression (the sum of the even numbered items). In addition a total score for negative affect was computed by summing the scores of the two

subscales, as this has been found to improve the performance of the HADS in screening for negative affect (Razavi et al. 1990).

The HADS scores were found to be normally distributed, with no significant differences evident between the community and student groups.

3.2.5. Avoidant Coping

All items on the COPE were scored from 0-4, with 0 indicating occasional uses of a particular coping statement, and 4 representing frequent use. Items relating to a particular coping strategy were then summed to provide a subscale scores. Of the 13 subscales included in the COPE, only 4 were included in the present analysis. The scores on the Denial subscale (items 6,27,40,57), the Behavioural Disengagement subscale (items 9,24,37,51), the Mental Disengagement subscale (items 2,16,31,43) and the Alcohol/Drug Use subscale (12,26,35,53) were summed to provide an aggregate measure of avoidant coping.

Scores on the measure of Avoidant Coping were normally distributed with no significant differences emerging between the student and community groups.

3.2.6. Binge Eating

Each of the 14 items on the BULIT- Binge subscale was given a score of 1-5, with 5 indicating the most symptomatic response. The item scores were then summed to provide a total measure of bingeing behaviour with higher scores indicating a greater degree of bingeing related behaviours.

Scores on the Bulit-Binge scale were found to be normally distributed, however significant differences existed between the student and community samples. The mean score in the community group [Mean (M) = 35.96] was significantly higher than that seen in the student group [M = 30.55; t (127) = 2.84; $p < .01$].

3.2.7. Summary of the Descriptive Analyses

All variables measured were found to be normally distributed. Comparisons between student and community groups revealed that the community sample tended to be older, had higher BMI scores, and scored higher on the binge eating and self-consciousness measures. No significant differences were found on measures of restraint, perfectionism, aversive self-awareness, negative affect or avoidant coping.

3.3. Comparisons between Binge Eaters and Non Binge Eaters

In order to test the hypothesis that binge eaters exhibit an 'escape prone psychological profile' characterised by higher levels of perfectionism, aversive self-awareness, negative affect and avoidant coping, the total sample was classified on two dimensions, namely level of binge eating and level of dietary restraint. Level of dietary restraint was included as a classifying dimension on the basis that Heatherton and Baumeister (1991) proposed their escape model to explain the seemingly self-defeating binge eating that occurs within a context of dieting. A cut-off score on the DEBQ-Restraint scale of 34 was established using the normative mean plus one standard deviation (van Strien et al., 1986). It was decided that this method of calculating the cut-off point would capture the upper spectrum of what has become an increasingly

normative behaviour. Participants whose scores on the Restraint scale were higher than 34 were identified as being high on the dimension of dietary restraint, whilst those scoring 34 and below were classified as low on this dimension.

A similar method was employed with scores on the BULIT Binge scale. In order to distinguish between those women who binged occasionally and those who represented the upper spectrum of bingeing behaviour, a cut-off score was established using the normative mean plus one standard deviation. Coincidentally, this also translated to a cut-off point of 34 (Stein & Brinza, 1989). Women scoring above 34 were classified as being binge eaters, whilst those achieving a score of 34 or below were considered to be low on the dimension of binge eating.

On the basis of this classification four groups were identified. For ease of reporting the results, labels were assigned to each group as follows. Women scoring low in both restraint and bingeing were labelled the 'control group' and those scoring high on the DEBQ-Res. but low on the BULIT- Binge scale were classified as the 'dieting group'. Those achieving low scores on the DEBQ-Res. but high scores on the BULIT Binge scale were classified as 'low-restraint/binge eaters', and those who scored high on both scales were labelled 'high restraint/binge eaters'.

Three-way analyses of variance (ANOVAS) were performed for the each of the variables of interest, using dietary restraint (high/low), binge eating (high/low) and sample (community/student) as the factors. The results of these analyses are outlined below, with means and standard deviations summarised in Table 3.

Table 3. *Means and Standard Deviations for High/Low Dietary Restraint and High/Low Bingeing*

Restraint Binge Eating	High High n=24		Low n=36		Low High n=25		Low n=44	
Groups	High Restraint/Binge Eaters		Dieting Group		Low Restraint/Binge Eaters		Control Group	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Total Perfectionism	148.08	17.72	133.22	21.97	133.40	14.49	129.14	20.60
Positive Perfectionism	76.21	10.72	72.31	9.90	68.92	11.43	71.09	10.38
Negative Perfectionism	71.88	13.21	60.92	14.55	64.48	10.86	58.05	13.71
Aversive Self-Awareness *	0.80	1.77	-0.04	1.48	0.02	1.34	-0.41	1.54
♦ SCS	44.00	9.09	42.53	8.82	37.12	8.80	38.86	10.73
♦ RSE	24.63	6.51	21.22	4.23	24.24	4.60	21.23	3.99
Negative Affect	16.83	5.95	12.44	6.55	15.48	6.59	12.14	4.97
Avoidant Coping	29.63	6.19	28.53	7.39	28.12	5.36	26.23	5.26

*Aversive self-awareness is expressed as a Z score. It consists of the sum of the standardised scores on the Self-Consciousness Scale and Rosenberg Self Esteem Scale

3.3.1. Perfectionism

As predicted, the mean Total Perfectionism score for binge eaters ($M = 140.60$) was significantly higher than that seen in low level binge eaters [$M = 130.98$; $F(1,121) = 8.95, p < .01$]. In addition, Total Perfectionism was found to be significantly higher in women with high levels of dietary restraint ($M = 139.17$) when compared to those low on restraint [$M = 130.68$; $F(1,121) = 6.62, p < .01$]. Given that there were no

significant interaction effects observed, this would suggest that both types of eating behaviour independently contribute to the difference seen in perfectionism levels.

Positive perfectionism was also higher in women with high levels of dietary restraint [F (1,121) = 6.14, $p < 0.05$]. The dieting group had a mean score of 73.87, compared with a mean of 70.30 in those women who were classified as being low on the dietary restraint dimension. No main effect of binge eating was observed.

A contrasting pattern of results was seen with negative perfectionism. A significant main effect of binge eating was seen on negative perfectionism scores [F (1,121) = 14.48, $p < .01$], however no significant effects were seen for dietary restraint. Women classified as binge eaters showed a mean score of 68.10, which was significantly higher than the mean of the non-bingeing group (M = 59.34).

Taken together, these results indicate that both dietary restraint and binge eating status independently explain a significant degree of the difference in perfectionism scores across participant groups. Examination of the subtypes of perfection suggest that dietary restraint is associated with significant differences in positive perfectionism, whilst binge eating was found to be associated with increased negative perfectionism.

3.3.2. Aversive Self-Awareness

A significant effect of dietary restraint was seen on scores of aversive self-awareness [F (1,121) = 4.77, $p < .05$]. The mean aversive self-awareness score was significantly higher in the dieting group (M = 0.30) when compared with women who were low on dietary restraint (M = -0.26). The analysis also revealed a significant main effect of binge eating [F (1,121) = 9.00, $p <. 01$]. As predicted, binge eaters showed a

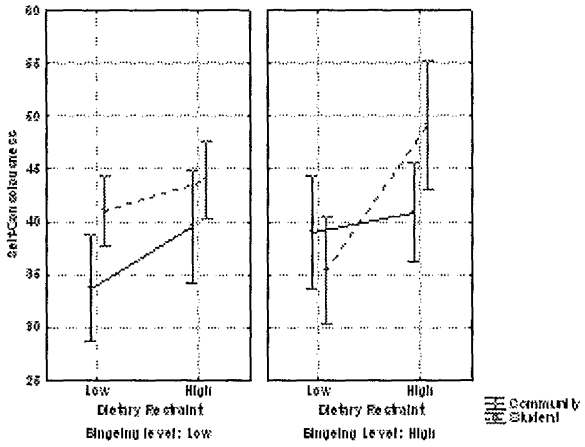
significantly greater level of aversive self-awareness (M = 0.40) than did non-bingers (M = -0.25). No significant interaction effects were observed.

Given that past research has yielded inconsistent results regarding the relationship between self-consciousness and binge eating, separate ANOVAs were conducted for the self-esteem and self-consciousness variables, which together comprise the measure of aversive self-awareness. Self-esteem scores were significantly higher for women who binge (M = 24.43) when compared to non-bingers [M = 21.23; F (1,121) = 14.69; p <.01]. No significant main effect was observed for dietary restraint, and no interaction effects were seen.

A significant main effect was observed for sample membership on Self-Consciousness Scores (F (1,121) = 5.45; p <.05), with the mean score in the student group (M = 41.95) being significantly higher than the mean for the community population (M = 38.37). Self-consciousness was also found to be significantly higher in women with high levels of dietary restraint (M = 43.12) when compared to those who were low on restraint [M = 38.23; F (1,121) = 4.43; p < .01]. No main effect was observed for binge eating.

An interaction effect was observed between restraint, binge eating and membership in either a community or student sample [F (1,121) = 4.43; p < .05]. Given that there were significant differences in age and BMI between the student and community groups, an analysis of covariance (ANCOVA) was run with BMI and age entered as covariates. After controlling for age and BMI, the interaction effect remained significant [F (1,113) = 5.35; p < .05] and the effect size of dietary restraint increased

(F (1,113) = 9.96; p < .01). A graphical representation of this interaction effect is presented in Figure 2.



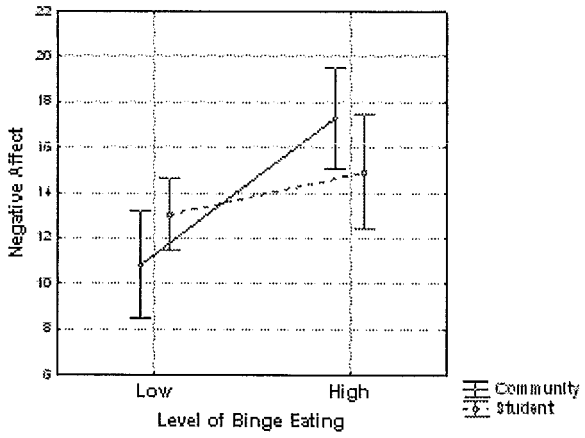
*Horizontal bars denote 95% confidence intervals.

Figure 2. *Interaction effects between sample membership, dietary restraint and binge eating on Self-Consciousness scores.*

Post-hoc analyses were conducted using the Tukey/Kramer method for unequal group sizes (Hinkle, Wiersma & Jurs, 1994). These analyses revealed that within the student group, women who were high on both the dietary restraint and binge eating dimension scored significantly higher (M = 49.11; p < .05) than women who scored high on binge eating in the absence of dietary restraint (M = 35.39; p < .05). In addition students in the high restrained/binge eating group scored higher than the community control group (M = 33.69; p < .01). Within the community sample no effect for either dietary restraint or binge eating was seen on self-consciousness scores.

3.3.3. Negative Affect

The analysis revealed a significant main effect of binge eating on negative affect [F (1,121) = 14.15; p <. 01], with binge eaters scoring significantly higher (M = 16.14) than non-bingers (M = 12.28). No effects were seen for dietary restraint. A significant interaction effect was found between membership in a student vs. community population and degree of binge eating [F (1,121) = 4.21; p < .05]. Once again it was hypothesised that these effects may be a function of age and weight differences found between the two samples, therefore, a three-way ANCOVA was performed with age and BMI entered as covariates. The interaction effect between sample membership and level of binge eating remained significant [F (1,113) = 4.59; p < .05], as did the main effect of binge eating on negative affect [F (1,113) = 13.59; p < .01]. These results suggest that the difference seen in the effect of binge eating on negative affect across the student and community samples cannot be explained by differences in age or BMIs. Figure 3 provides a graphical illustration of this interaction effect.



*Horizontal bars denote 95% confidence intervals.

Figure 3: *Interaction effect between membership in either a community or student sample and level of binge eating.*

Post hoc analyses revealed that the main effect of binge eating on negative affect was only evident within the community sample. Within this group binge eaters scored significantly higher on the negative affect measure (M = 17.30) than non-bingers (M = 10.88; $p < .05$). In addition binge eaters in the community sample scored significantly higher than non-bingers in the student group (M = 12.91; $p < .05$).

Whilst these results support the hypothesis that negative affect is elevated in binge eaters, they suggest that this is true only of binge eaters within the community. An alternative explanation may lie in the fact that there were fewer binge eaters in the student group (n=22), therefore the power to detect significant differences may have been compromised.

3.3.4. Avoidant Coping

No significant main effect was observed for dietary restraint, however avoidant coping was found to be significantly higher in women who were classified as binge eaters when compared with non-bingers [F (1,121) = 3.77; $p \leq .05$]. The mean score on the avoidant coping measure was 28.86 in the bingeing group, compared with a mean score of 27.26 in the non-bingers. No interaction effects were found. These results provide support for the hypothesis that binge eaters are characterised by higher levels of avoidant coping.

3.3.5. Summary of the Factorial Analyses

The results presented above support the hypothesis that binge eaters do in fact report higher levels of perfectionism, aversive self-awareness, negative affect and avoidant coping. Interestingly, negative affect was higher only in the community sample of binge eaters, a finding which persisted when age and BMI were controlled for.

Restrained eaters also reported higher levels of perfectionism and aversive self-awareness when compared with women who were low on the dimension of dietary restraint, however no differences were seen in negative affect or avoidant coping.

The results also showed that although increased aversive self-awareness was associated with both binge eating and high levels of dietary restraint, important differences were seen in the component measures. Dieting was associated with increased self-consciousness, but not with self-esteem, whereas bingeing was associated with lower levels of self-esteem, but not with increased self-consciousness. This would suggest that each type of eating behaviour is related to aversive self-awareness, but in different ways.

3.4. Relationships between Variables in the Escape Model.

The between group analyses presented above indicate that binge eaters exhibit higher levels of each of the constructs in the escape model when compared with non-bingers. The remaining hypotheses however are concerned with the relationships between each of the variables, and the degree to which these constructs predict binge eating at varying levels of severity. As such, data from the entire participant pool was included in the following analyses.

Results in this section are presented in two parts. Firstly, correlations between all of the variables measured are presented, followed secondly, by a series of regression analyses aimed at understanding the relative importance of perfectionism, aversive self-awareness, negative affect and avoidant coping in explaining the variance in binge eating scores.

3.4.1. Correlations between Binge Eating, Dietary Restraint, Perfectionism, Aversive Self-Awareness, Negative Affect and Avoidant Coping.

Pearson product-moment correlation coefficients were computed between all of the variables measured in this study and are presented in Table 4. This is followed by a brief outline of how the pattern of correlations relates to the assumptions contained within the escape model.

Table 4 *Table of Correlations between Restraint, Perfectionism, Aversive Self-Awareness, Negative Affect, Avoidant Coping and Binge eating.*

N = 129	Restraint	Perfectionism	Aversive Self-awareness	Negative Affect	Avoidant Coping
Perfectionism	0.27 **				
Aversive Self Awareness	0.22 *	0.48 **			
Negative Affect	0.10	0.48 **	0.55 **		
Avoidant Coping	0.19 *	0.34 **	0.38 **	0.44 **	
Binge eating	0.07	0.25 **	0.21 *	0.42 **	0.15

* denotes significant at $p < .05$

** denotes significant at $p < .01$

In relation to binge eating the variable that showed the strongest correlation was negative affect (r = .42) with comparatively weaker associations seen between bingeing and perfectionism (r = .25) and aversive self-awareness (r = .21). This indicates that higher scores on the BULIT-Binge scale were associated with higher scores on each of the scales measuring these constructs. No significant correlations were seen between avoidant coping and binge eating, or dietary restraint and binge eating.

In addition to the relationship seen with bingeing, negative affect was also found to be positively correlated with perfectionism (r = .48), aversive self-awareness (r = .55), and avoidant coping (r = .44). This pattern of correlations indicates that moderately strong relationships exist between each of these constructs.

Finally, moderate positive correlations were observed between avoidant coping and negative affect (r = .44), aversive self-awareness (r = .38) and perfectionism (r = .34). Analysis using the subtypes of perfectionism revealed that avoidant coping was significantly associated with negative perfectionism (r = .42), but not with positive perfectionism (r = .09). This pattern of correlations supports the premise that aversive emotional states are associated with higher scores on measures of avoidant coping and vice versa.

3.4.2. Regression Analyses

Regression analyses were performed with negative affect, avoidant coping and binge eating each considered separately as the predicted variable. Given that the assumption within escape theory is that correlations between each of the variables are causal in nature, it was decided that hierarchical regression was the most appropriate form of analysis (Nie, Hull, Jenkins, Steinbrenner & Bent, 1975).

3.4.3 Hierarchical Regression Using Negative Affect As the Dependent Variable

In the first analysis, negative affect was entered as the predicted variable, with perfectionism entered into the prediction equation first, followed by aversive self-awareness. The order in which the predictor variables were added into the equation reflects the causal sequence proposed in the escape model. A third, exploratory step was added whereby binge eating and avoidant coping were entered simultaneously to assess whether these variables had any reciprocal influence on negative affect. The results of the analysis are summarised in Table 5.

Table 5. *Hierarchical Regression with Negative Affect as the Dependent Variable*

Model		**R**	**R Square**	**R Square Change**	**Beta**	**F**
1	Perfectionism	.48	.23		.48 *	$F(1,127) = 37.51$*
2	Perfectionism				.28 *	$F(2,126) = 35.36$*
	Aversive Self-Awareness	.60	.36	.13	.41 *	
3	Perfectionism				.19 *	
	Aversive Self-Awareness	.69	.47	.11	.32 *	$F(4,124) = 27.43$*
	Avoidant Coping}**				.21 *	
	Binge Eating }**				.27 *	

*Denotes significant at $p < .01$

** Avoidant Coping and Binge Eating entered into equation simultaneously.

The results show that in combination, perfectionism, aversive self-awareness, avoidant coping and binge eating explain 47 % of the variance seen in negative affect scores, with each of the variables making a significant contribution. Perfectionism alone accounts for 23% of the variance in negative affect scores. When aversive self-awareness is added, a significant increase of 13% in variance explained is achieved. The fact that perfectionism and aversive self-awareness together account for 36% of the variance, supports the assumption that these two constructs are closely related to the negative affect seen in binge eating.

By adding avoidant coping and binge eating into the equation, a significant increase was seen in the proportion of variance explained (11%), suggesting that the relationship between negative affect and escape behaviours may be reciprocal in nature.

3.4.4 Hierarchical Regression Using Avoidant Coping As the Dependent Variable

Once again, the predictor variables were entered into the equation based on the causal sequence outlined in escape theory. Perfectionism was entered first, followed by aversive self-awareness and then negative affect. A further exploratory step was added, where binge eating scores were entered as the fourth step to ensure that any potential influence binge eating had on avoidant coping could be assessed. The results of this analysis are presented in Table 6.

Table 6. *Hierarchical Regression using Avoidant Coping as the Dependent Variable*

Model		R	R Square	R Square Change	Beta	F
1	Perfectionism	.34	.12		.34 *	$F(1,127) = 16.76$*
2	Perfectionism				.21 *	$F(2,126) = 13.45$*
	Aversive Self-Awareness	.42	.18	.06	.28 *	
3	Perfectionism				.13	
	Aversive Self-Awareness	.48	.23	.05	.16	$F(3,125) = 12.45$*
	Negative Affect				.29 *	
4	Perfectionism				.13	
	Aversive Self-Awareness	.48	.23	.00	.16	$F(4,124) = 9.34$*
	Negative Affect				.31 *	
	Binge Eating				-.04	

*Denotes significant at $p < .01$

Perfectionism alone accounted for 12% of the variance in avoidant coping, with the addition of aversive self-awareness contributing an additional 6% to the variance explained. By adding negative affect into the equation the proportion of variance explained was increased significantly by 5%. In combination perfectionism, aversive self-awareness and negative affect explain 23 % of the variance in avoidant coping scores, however once negative affect was entered into the equation, the contribution of perfectionism and aversive self-awareness was completely attenuated. The final step of including binge-eating scores into the equation failed to contribute additionally to the proportion of variance explained in avoidant coping.

3.4.5. Hierarchical Regression Using Binge Eating as the Dependent Variable

In the final analysis, binge eating was entered as the predicted variable, with perfectionism entered into the prediction equation first, followed by aversive self-

awareness, then negative affect, and lastly avoidant coping. The results of this analysis are presented in Table 7.

Table 7. *Hierarchical Regression using Binge Eating as the Dependent Variable*

Model		R	R Square	R Square Change	Beta	F
1	Perfectionism	.25	.06		.25 *	F(1,127) = 8.30 *
2	Perfectionism				.19	
	Aversive Self-Awareness	.27	.07	.01	.13	F(2,126) = 5.00*
3	Perfectionism				.07	
	Aversive Self-Awareness	.42	.18	.11	-.04	*F*(3,125) = 9.07*
	Negative Affect				.41 *	
4	Perfectionism				.08	
	Aversive Self-Awareness	.43	.18	.00	-.04	*F*(4,124) = 6.82*
	Negative Affect				.42 *	
	Avoidant Coping				-.05	

*Denotes significant at $p < .01$

Perfectionism alone accounted for 6% of the variance in binge eating scores with the addition of aversive self-awareness contributing only 1% to the amount of variance explained. The addition of negative affect into the equation resulted in a significant increase in variance explained (11%). The inclusion of avoidant coping failed to explain any additional variance. Taken together, these results show that measures of perfectionism, aversive self-awareness and negative affect account for 18% of the variance in binge eating scores, with negative affect being the most significant predictor ($B = .42$). The addition of negative affect into the prediction equation once

again completely attenuated the predictive power of perfectionism and aversive self-awareness.

3.4.6. Summary of Correlational and Regression Analyses

As predicted, binge eating was found to be positively correlated with perfectionism, aversive self-awareness and negative affect, however no significant correlations were found with avoidant coping or restraint. In addition, restraint, perfectionism, aversive self-awareness and avoidant coping were all positively correlated with one another. The one exception to this was the absence of any relationship between restraint and negative affect.

The results of the regression analyses are summarised and discussed in the following section.

CHAPTER 4: DISCUSSION

Heatherton and Baumeister (1991) have proposed that binge eating is instigated as a motivated attempt to escape from negative affect. They suggest that perfectionist standards promote a tendency for self-comparison that highlights perceived shortcomings. This creates an aversive sense of self, which in turn leads to emotional distress from which the individual attempts to escape. The aim of this study was to examine the applicability of escape theory to binge eaters in a non-clinical sample drawn from both community and student settings. Based on the assumptions within escape theory it was hypothesised that binge eaters would exhibit higher levels of perfectionism, aversive self-awareness, negative affect and avoidant coping than non-bingers. Secondly, it was predicted that each of these constructs would be positively correlated with binge eating scores. The final hypotheses predicted that perfectionism and aversive self-awareness would both be significant predictors of negative affect, and that negative affect and avoidant coping would in turn, predict binge eating.

The results supported the first hypothesis that women who binge eat exhibit an 'escape-prone' psychological profile, scoring significantly higher on measures of perfectionism, aversive self-awareness, negative affect, and avoidant coping than either non-bingers. The differences observed in negative affect between bingers and non-bingers reached significance in the community sample but not however, in the student group, although the scores for the student sample were in the predicted direction. This remained the case even after differences in age ad BMI between these two groups were allowed for.

Perfectionism and aversive self-awareness were also found to be associated with dietary restraint independently of binge eating status. Important differences however were seen between dieters and binge eaters with regard to the specific nature of these relationships, in that positive perfectionism was higher in restrained eaters whilst negative perfectionism was higher in bingers. These results are not surprising when the conceptual differences between these types of perfectionism are considered. A higher level of positive perfectionism in dieters is consistent with the widely held belief that successful dietary control and a thin physique are likely to bring positive social rewards. In contrast, heightened levels of negative perfectionism in binge eaters suggest that in this group, perfectionist ideals are driven by a fear of failure.

This underlying fear of failure may have important implications for the development of a negative self-focus. Swann and Read (1981) suggested that people have an inherent need to seek self-verifying feedback, as this serves the purpose of preserving predictable and familiar self-concepts. This need for self-verification may actually motivate women to seek the very feedback that they fear. This tendency to solicit negative feedback was indeed found in a group of bulimic women, who despite serious concerns about body image actively sought negative feedback not only about their appearance, but also with regard to their artistic, intellectual and social abilities (Joiner, 1999). This suggests that negative perfectionism may be a particularly potent precursor to aversive self-awareness, by predisposing individuals to attend to information that highlights their shortcomings.

Aversive self-awareness was also found to be independently associated with dietary restraint, although again qualitative differences were seen between bingeing and

restrained eating behaviour. Higher levels of aversive self-awareness in binge eaters were primarily due to significantly lower levels of self-esteem found in this group, whereas in restrained eaters elevated levels of aversive self-awareness were due to significantly higher levels of self-consciousness. This difference found in self-esteem between dieters and bingers may relate to disparities in level of dietary control. Although low levels of physical self-esteem have been found in both dieters and binge eaters, dieters tend to have significantly higher levels of moral self-esteem. This suggests that successful dietary control may be perceived as an admirable quality that protects self-esteem, whereas the dietary disinhibition associated with binge eating may serve to directly undermine perceptions of self-worth (Ruderman & Grace, 1988).

Subsequent analyses revealed that although dietary restraint was associated with higher levels of self-consciousness, there was also a significant interaction effect between binge eating, dietary restraint and sample membership. For the community sample, there was no effect of either binge eating or dietary restraint on self-consciousness scores. For the student sample, however, higher self-consciousness scores were seen for high restraint/binge eaters when compared with low restraint/ binge eaters. For low restraint/binge eaters, there was no effect of dietary restraint on self-consciousness. Taken together these results suggest that in students, the relationship between self-consciousness and dietary restraint is only evidenced amongst binge eaters.

The finding that students scored higher overall on measures of self-consciousness remained significant after differences in age and BMI had been controlled for. There are several factors characteristic of student populations that may

contribute to this finding. For students, their daily environment is characterised by regular evaluation and comparisons against standards, whether these be personal comparisons against other students, or evaluation against course related criteria. In addition, it could be argued that psychology students by virtue of their interest and knowledge about human behaviour are more attuned to how others perceive them, and how their behaviour conforms to both personal and socially prescribed ideals. In combination these contextual factors may promote a tendency for evaluative self-focus.

The relationship seen between dietary restraint and self-consciousness may also shed some light on the inconsistent results produced in previous studies examining the relationship between self-consciousness and binge eating. Although Tassava and Rudeman (1999) failed to find a relationship between self-consciousness and bingeing, the extent to which their participants engaged in dietary restriction was not measured. In contrast, research that has measured both bingeing and dietary restraint has found self-consciousness to be elevated in binge eaters who are actively trying to control their weight through dieting. (Striegel-Moore et al. 1993; Beebe et al. 1995). If the relationship between bingeing and self-consciousness is dependent on dietary restraint as the results of this study suggest, then failing to control for concurrent dieting behaviour may have led to inconsistent results in the literature.

Taken together, these results support the premise of the escape model, that binge eaters are characterised by higher levels of perfectionism, aversive self-awareness, negative affect and avoidant coping when compared to non-bingers. Although restrained eaters were found to share the propensity for high levels of perfectionism and aversive self-awareness, qualitative differences were seen in the nature of these relationships.

These qualitative differences together with the elevated negative affect and levels of avoidant coping found in binge eaters indicates that the escape model has some degree of specificity in terms of differentiating between the two types of eating behaviour.

This also suggests however, that women who binge eat exhibit an escape prone profile independently of their dieting status, which challenges the assumption within escape theory that dietary restraint is an important precursor to binge eating. Having said this, the coexistence of dietary restraint may exacerbate escape behaviours by potentially increasing aversive self-awareness. The positive perfectionism and higher levels of self-consciousness found in dieters may have an additive effect by potentially increasing the likelihood of failure experiences, and the subsequent awareness of these shortcomings. This notion is supported by the results of this study, which found that total perfectionism and aversive self-awareness were both higher in restrained/binge eaters when compared with non-restrained/binge eaters. Further support can be seen in past research that has found both positive and negative perfectionism to be high in women with eating disorders (Terry-Short et al. 1995; Davis, 1997), and higher levels of self-consciousness when bingeing occurs alongside dietary restriction (Striegel-Moore et al. 1993; Beebe et al. 1995). This suggests that whilst escape theory applies to binge eating irrespective of dieting status, co-existing dietary restraint may serve to exacerbate the conditions that lead to emotional distress, hence creating a more powerful need for escape.

Whilst the between group analyses indicated that binge eaters differed from non-bingers on all the psychological variables outlined in the escape model, it was also hypothesised that these constructs would predict binge eating at varying levels of

severity. Therefore, when examining the relationships between variables, data from the entire participant pool was included in the analyses. The second hypothesis predicted that perfectionism, aversive self-awareness, negative affect and avoidant coping would all be positively correlated with binge eating scores. This was true for the first three variables, however no significant relationship was observed between avoidant coping and binge eating. This result was surprising given the extensive body of research that has documented the positive relationship between these two constructs (Ball & Lee, 2000).

These inconsistencies may in part be due to the use of the COPE in assessing levels of avoidant coping. Lyne and Roger (2000) conducted a psychometric reassessment of the COPE concluding that the original subscales of the COPE are highly unstable. Their factor analysis revealed that two of the items in the Mental Disengagement scale did not in fact load onto avoidant coping, and that items which were originally included in the Acceptance and Restraint coping scales were in fact indicators of an avoidant coping style. This suggests that of the 16 COPE items that were used in the present study, only 14 were valid indicators of avoidant coping. When these psychometric inconsistencies of the COPE are considered in conjunction with the well-documented association between avoidant coping and binge eating, it would seem reasonable to assume that failure to replicate past findings may be an artefact of the measure used.

No relationship was found between dietary restraint and binge eating, which was not surprising given the current debate within the literature regarding the causal sequence between dieting and bingeing. Whilst restraint theory and cognitive

behavioural theory suggest that dieting precedes the development of binge eating, there is some evidence that the reverse may also be true in many cases. In a longitudinal study, Stice (1998) found that dieting was not related to future bingeing behaviour, however bulimic pathology predicted subsequent dietary restraint. The lack of relationship found between dieting and binge eating in this study may be a consequence of using a non-clinical population, who presumably are less established in their binge eating patterns and may not as yet have developed a pattern of compensatory dietary restraint.

The idea that binge eating may occur prior to, or in the absence of dietary restraint again raises questions about the importance Heatherton and Baumeister (1991) place on the contextual influence of chronic dieting. Whilst they acknowledge that any high standards could conceivably lead to escapist motivations, they emphasise the role of standards pertaining to dieting and body shape. Secondly, they suggest that chronic caloric deprivation creates a preoccupation with food that sets the scene for eating to be used as the mechanism of escape. The results of this study however suggest that these arguments do not appear to be relevant for all binge eaters who fit an 'escape prone' profile. Whether a preoccupation with food, as implied by escape theory, is a necessary prerequisite for bingeing could also be debated. The sensory, hedonic, physiological, and emotional effects of eating may be powerful enough to sustain binge eating independent of any consistent pattern of caloric deprivation.

The third hypothesis predicted that each of the psychological variables outlined in the escape model would contribute to binge eating in specific ways. It was predicted that perfectionism and aversive self-awareness would account for a significant

proportion of the variance in negative affect scores, and that negative affect and avoidant coping would be significant predictors of binge eating. These predictions were tested by a series of regression analyses where binge eating, negative affect, and avoidant coping were each considered as dependent variables.

The results indicated that when perfectionism, aversive self-awareness, negative affect and avoidant coping were considered together, negative affect was the only significant predictor of scores on the binge eating scale. Further analysis however, suggests that this interpretation on its own is incomplete. Although perfectionism and aversive self-awareness predicted only a small portion of the variance in binge eating, in combination they predicted more than a third of the variance seen in negative affect scores, confirming the first part of the hypothesis. This suggests that although negative affect is the most salient predictor of binge eating, perfectionism and aversive self-awareness have an indirect effect on binge eating via their influence on negative affect. This pattern of results is consistent with the causal sequence outlined in the escape model.

Further support for the idea that perfectionism and aversive self-awareness exert their influence indirectly by contributing to negative affect is seen in the analysis of avoidant coping. In combination, perfectionism and aversive self-awareness accounted for a significant portion of the variance in avoidant coping, however this effect was completely attenuated once negative affect was entered into the equation. Once again, this explanation is consistent with the causal sequence proposed in escape theory, which suggests that perfectionism and aversive self-awareness exert their influence on binge eating by creating emotional distress from which an individual is motivated to escape.

The lack of relationship seen between avoidant coping and binge eating however failed to support the prediction that avoidant coping would contribute to the variance in binge eating. These results are consistent with Paxton and Diggens' (1997) findings that avoidant coping, although elevated in binge eaters, did not contribute to the prediction of binge eating once depression was controlled for. These findings suggest that whilst measures of avoidant coping may assess a tendency to engage in escape behaviours, they may not accurately capture the mechanism of escape. Heatherton and Baumeister (1991) have suggested that escape is facilitated by cognitive narrowing where attention is refocused to the here and now in an attempt to reduce levels of self-awareness and negative affect. In this context inhibitions are eroded, rational thinking reduces, and the likelihood of binge eating increases. This implies that cognitive narrowing is a transient state temporally related to binge eating. Whether this transient, deconstructed state can therefore be accurately measured by questionnaires requiring retrospective insight into how one coped with a given situation is questionable.

Furthermore, the reliability of retrospective reports of emotional experiences has been challenged. Robinson and Clore (2002) argue that emotional experiences cannot be stored in memory. When a person recalls a past emotional event, they are thought to reconstruct the experience using multiple sources of information including their beliefs about how they generally react in similar situations. Therefore, the emotion that they report retrospectively is subtly different from what they experienced during the original event. This suggests that retrospective accounts of emotional experience are not entirely reliable at the best of times, let alone when these experiences are accompanied by a cognitive state in which insight and self-awareness have been deliberately reduced.

Finally, exploratory analyses were conducted to assess the potential influence binge eating had on both negative affect and avoidant coping. In combination, bingeing and avoidant coping explained a significant proportion of the variance in negative affect over and above the influence of perfectionism and aversive self-awareness. Binge eating failed to predict any additional variance in avoidant coping, which was not surprising given the lack of correlation found between these two measures. Whilst the analyses conducted in this study do not permit conclusions regarding the direction of causality, this pattern of results suggests that the relationship between binge eating and negative affect may be reciprocal. If this assumption were true, then this would indicate that escape behaviours might serve to maintain binge eating by exacerbating the distressing emotions the person was attempting to escape in the first instance. This would be expected given that bingeing is likely to enhance perceptions of personal failure, and hence perpetuate the cycle of aversive self-awareness and negative affect. This suggests that in addition to explaining a possible causal path to binge eating, escape theory may also shed light on how bingeing behaviours are maintained.

4.1. Limitations of This Study And Suggestions for Future Research

Several limitations were identified which may have effected both the results of this study, and the extent to which they can be generalised. The exclusive use of female participants somewhat limits the generalisability of the results. Past research has focussed on women on the basis that there is far higher prevalence of eating disorders in the female population. This rationale is less justifiable in the area of binge eating, which

has been found to be less differentiated between the sexes than other disordered eating behaviours (Spitzer et al., 1992;1993). Given the comparatively higher prevalence of binge eating amongst males, it would be worthwhile for future research to incorporate male participants.

A further limitation relates to the method of analysis used. The escape theory of binge eating proposes a causal path that would be best tested using causal modelling techniques. Whilst the results of the regression analyses used in this study illustrate that relationships exist between the variables, this type of analysis allows no firm conclusions to be drawn with respect to direction of influence. Future research could address this issue by using longitudinal designs and techniques such as structural equation modelling which may shed light on both the direction of influence and the relative input of the different variables within the escape model.

Further research is also needed to understand the role of dietary restraint in an escape conceptualisation of binge eating. The results of this study suggest that escape theory applies to binge eating irrespective of dieting status. Although coexisting dietary restraint may exacerbate aversive self-awareness and therefore potentially increase the motivation to escape, these relationships require further investigation.

Finally, the process of cognitive narrowing that is hypothesised to occur prior to and during binge episodes requires further research. As discussed earlier retrospective accounts of this process are not entirely reliable (Robinson & Clore, 2002), suggesting that future research into this phenomenon would require experimental manipulation of negative affect and simultaneous measurement of cognitive and behavioural responses.

4.2. Conclusions and Implications

Overall, the results of this study lend support to the escape model of binge eating by demonstrating that binge eaters score higher on each of the constructs outlined in the model when compared to non-bingers. Given that this study was conducted in a non-clinical sample of women who binge eat, these results also support the notion that each of these psychological constructs is associated with binge eating irrespective of the diagnostic context in which it occurs. In addition, the fact that these findings were consistent with past research despite the use of different measures speaks to the robustness of these relationships.

The analyses also revealed that perfectionism and aversive self-awareness were significant predictors of negative affect, which in turn was a significant predictor of binge eating. Whilst these results are consistent with escape theory, further research is needed to fully understand the causal flow between each of these constructs and binge eating.

The importance of understanding these relationships lies in the implications escape theory poses for the treatment of binge eating. Current treatments focus on addressing erratic eating patterns and distorted cognitions surrounding weight and shape. Equally important however, is the acknowledgement that a given behaviour, no matter how seemingly maladaptive, may provide an important function for the individual. Escape theory suggests that binge eating does indeed serve such a function, by providing a form of emotional regulation through escape from distressing emotions that arise in the context of negative self-evaluation. If future research validates this

theory, then it would seem reasonable to assume that the cycle of negative self-evaluation and negative affect should be as much a focus of treatment, as the bingeing behaviour itself. In reality however, current treatments such as CBT often use reductions in binge eating as a measure of treatment efficacy without adequate consideration as to whether or not the underlying contributing factors have also been reduced. If these underlying causal mechanisms are left untreated then there is a risk that the individual will relapse, or engage in potentially more destructive escapist behaviours such as substance abuse, self-harm or suicide. The reality of this risk has been borne out by research showing that over a period of time, reductions in disordered eating patterns were accompanied by increases in alcohol and drug abuse in bulimics and binge eaters (Yager, Landsverk, Edelstein & Jarvik, 1988).

Long-term outcome may therefore be improved if current treatments were to incorporate strategies that interrupt the ruminative self-comparison process, and offer more adaptive methods of dealing with emotional distress. The potential of this type of intervention is supported by the encouraging results found from recent applications of Linehan's Dialectical Behaviour Therapy to binge eating (Safer, Telch & Agras, 2001; Telch, Agras & Linehan, 2000). This programme contains modules targeted at recognising and regulating emotional responses, learning adaptive ways of distracting oneself from emotional distress, and developing the ability to appreciate experiences in the moment without judging or analysing what these experiences may mean. Given the causal process of binge eating described in escape theory, it is readily apparent how relevant these techniques may be in breaking the escape cycle in which binge eaters appear to be trapped.

References

Abraham, S.F., & Beumont, P.J.V. (1982). How patients describe bulimia or binge eating. *Psychological Medicine, 12,* 625-635.

Agras, W.S. (1991). Non-pharmacologic treatments of bulimia nervosa. *Journal of Clinical Psychiatry, 52,* 29-33.

Agras, W., & Telch, C. (1998). The effects of caloric deprivation and negative affect on binge eating in obese binge-eating disordered women. *Behavior Therapy, 29,* 491-503.

Allison, D.B., Kalinsky, L.B., & Gorman, B.S. (1992). A comparison of the psychometric properties of three measures of dietary restraint. *Psychological Assessment, 4* (3), 391-398.

American Psychiatric Association, (2000). *Diagnostic and statistical manual of mental disorders, Text Revision,* (4th ed.). Washington DC: American Psychiatric Association.

Ardovani, C., Caputo, G., Todisco, P, & Grave, R.D. (1999). Binge eating and restraint model: Psychometric analysis in binge eating disorder and normal weight bulimia. *European Eating Disorders Review, 7,* 293-299.

Ball, K., & Lee, C. (2000). Relationships between psychological stress, coping and disordered eating: A review. *Psychology and Health, 14,* 1007-1035.

Baumeister, R.F. (1988). Masochism as escape from self. *The Journal of Sex Research, 25*(1), 28-59.

Baumeister, R.F. (1990a). Anxiety and deconstruction: On escaping the self. In J.M. Olsen & M.P. Zanna (Eds.), *Self-inference processes: The Ontario Symposium: Vol. 6* (pp. 259-291). Hillsdale, NJ: Erlbaum.

Baumeister, R.F. (1990b). Suicide as escape from self. *Psychological Review, 97* (1), 90-113.

Baumeister, R.F., & Scher, S.J. (1988). Self-defeating behaviour patterns among normal individuals: Review and analysis of common self-destructive tendencies. *Psychological Bulletin, 104*(1), 3-22.

Beebe, D.W, Holmbeck, G.N, Albright, J.S., Noga, K. & Decastro, B. (1995). Identification of "Binge-Prone" women: An experimentally and psychometrically validated cluster analysis in a college population. *Addictive Behaviours, 20* (4), 451-462.

Beglin, S.J., & Fairburn, C.G. (1992). What is meant by the term "binge"? *American Journal of Psychiatry, 149*, 123-124.

Blundell, J.E., & Hill, A.J. (1993). Binge eating: Psychological mechanisms. In C.G. Fairburn & G.T. Wilson (Eds.), *Binge eating: Nature, assessment and treatment.* (pp. 206 – 224). New York: The Guilford Press.

Brody, M.J., Walsh, B.T., & Devlin, M.J. (1994). Binge eating disorder: Reliability and validity of a new diagnostic category. *Journal of Consulting and Clinical Psychology, 62*, 381-386.

Bruce, B., & Agras, W.S. (1992) Binge-eating in females: A population based investigation. *International Journal of Eating Disorders, 12,* 365-373.

Bulik, C. (1994). *Eating disorders: Detection and treatment.* Palmerston North: The Dunmore Press.

Carver, C.S., Scheier, M.F., & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically-based approach. *Journal of Personality & Social Psychology, 56* (2), 267-283.

Castonguay, L.G., Eldredge, K.L., & Agras, W.S. (1995). Binge eating disorder: Current state and future directions. *Clinical Psychology Review, 15*(8). 865-890.

Cooper, P.J., & Fairburn, C.G. (1983). Binge-eating and self-induced vomiting in the community: A preliminary study. *British Journal of Psychiatry, 142*, 139-144.

Davis, C. (1997) Normal and neurotic perfectionism in eating disorders: An interactive model. *International Journal of Eating Disorders, 22*, 421-426.

Davis, C., Claridge, G., & Fox, J. (2000). Not just a pretty face: Physical attractiveness and perfectionism in the risk for eating disorders. *International Journal of Eating Disorders, 27,* 67-73.

Demo, D.H. (1985) The measurement of self-esteem: Refining our methods. *Journal of Personality and Social Psychology, 48*, 1490-1502.

Duval, S., & Wicklund, R.A. (1972). *A theory of objective self-awareness.* New York: Academic Press.

Eldredge, K., Wilson, G.T., & Whaley, A. (1990). Failure, self-evaluation, and feeling fat in women. *International Journal of Eating Disorders, 9*, 179-190.

Fairburn, C.G. (1981). A cognitive behavioural approach to the management of bulimia. *Psychological Medicine, 11*, 707-711.

Fairburn, C.G., Cooper, Z., Doll, H.A., & Welch, S.L. (1999). Risk factors for anorexia nervosa: Three integrated case control comparisons. *Archives of General Psychiatry, 56,* 468-476.

Fairburn, C.G., Doll, H.A., Welch, S.L., Hay, P.J., Davies, B.A., & O'Connor, M.E. (1998). Risk factors for binge eating disorder: A community based, case controlled study. *Archives of General Psychiatry, 55,* 425-432.

Fairburn, C.G., Hay, P.J., & Welch, S.L. (1993). Binge eating and bulimia nervosa: Distribution and determinants. In C.G. Fairburn & G. T. Wilson (Eds.), *Binge eating: Nature, assessment and treatment* (pp123-143). New York: The Guilford Press.

Fairburn, C., & Wilson, G. (1993). (Eds.). *Binge eating: Nature, assessment and treatment.* New York: The Guilford Press.

Fear, J.L., Bulik, C.M. & Sullivan, P.F. (1996). The prevalence of disordered eating behaviours and attitudes in adolescent girls. *New Zealand Journal of Psychology, 25,* 7-12.

Fejfar, M.C., & Hoyle, R.H. (2000). Effect of private self-awareness on negative affect and self-referent attribution: A quantitative review. *Personality and Social Psychology Review, 4*(2), 132-142.

Fenigstein, A., Scheier, M.F. & Buss, A.H. (1975). Public and private self-consciousness: Assessment and theory. *Journal of Consulting and Clinical Psychology, 43*(4), 522-527.

Field, A.E., Camargo, C.A., Taylor, C.B., Berkey, C.S., & Colditz, G.A. (1999). Relation of peer and media influences to the development of purging behaviors among preadolescent and adolescent girls. *Archives of Pediatric Adolescent Medicine, 153,* 1184-1189.

Garner, D., Shafer, C. & Rosen, L. (1992). Critical appraisal of the DSM-III-R diagnostic criteria for eating disorders. In S.R. Hooper, G.W. Hynd, & R.E. Mattison (Eds.), *Child psychopathology: Diagnostic criteria and clinical assessment.* Hillsdale, NJ: Erlbaum.

Grilo, C.M, Masheb, R.M., & Wilson, G.T. (2001). Subtyping binge eating disorder. *Journal of Consulting and Clinical Psychology, 69*(6), 1066-1072.

Gross, J., & Rosen, J.C. (1988). Bulimia in adolescents: Prevalence and psychosocial correlates. *International Journal of Eating Disorders, 7,* 51-61.

Hawkins, R.C., & Clement, P.F. (1984). Binge eating: Measurement problems and a conceptual model. In R.C Hawkins, W.J. Fremouw, & P.F. Clement (Eds.), *The binge-purge syndrome* (pp. 229-251). New York: Springer.

Heatherton, T.F., & Baumeister, R.F. (1991). Binge eating as an escape from self-awareness. *Psychological Bulletin, 110*(1), 86-108.

Heatherton, T.F., Herman, C.P., & Polivy, J. (1991). Effects of physical threat and ego threat on eating behavior. *Journal of Personality and Social Psychology, 60*(1), 138-143.

Heatherton, T.F., & Polivy, J. (1992). Chronic dieting and eating disorders: A spiral model. In J. Crowther, S.E. Hobfall, M.A.P. Stephens, & D.L. Tennenbaum (Eds.). *The etiology of bulimia: The individual and familial context (pp. 133-155).* Washington, DC: Hemisphere.

Heatherton, T.F., Polivy, J., Herman, C.P., & Baumeister, R. (1993). Self-awareness, task failure and disinhibition: How attentional focus affects eating. *Journal of Personality, 61,* 49-61.

Henderson, N.J., & Huon, G.F. (2002). Negative affect and binge eating in overweight women. *British Journal of Health Psychology, 7,* 77-87.

Hinkle, D.E., Weirsma, W., & Jurs, S.G. (1994). *Applied statistics for the behavioural sciences* (3rd ed.). Boston: Houghton Mifflin Company.

Irving, L.M. (1990). Mirror images: Effects of the standard of beauty on the self and body-esteem of women exhibiting varying levels of bulimic symptoms. *Journal of Social and Clinical Psychology, 9,* 230-242.

Joiner, T.E. (1999). Self-verification and bulimic symptoms: Do bulimic women play a role in perpetuating their own dissatisfaction and symptoms? *International Journal of Eating Disorders, 26,* 145-151.

Katzman, M.A., & Wolchik, S.A. (1984). Bulimia and binge eating in college women: A comparison of personality and behavioural characteristics. *Journal of Consulting and Clinical Psychology, 52,* 423-428.

Koff, E., & Sangani, P. (1997). Effects of coping style and negative body image on eating disturbance. *International Journal of Eating Disorders, 22,* 51-56.

Lehman, A.K., & Rodin, J. (1989). Styles of self-nurturance and disordered eating. *Journal of Consulting and Clinical Psychology, 57*(1), 117-122.

Lyne, K., & Roger, D. (2000). A psychometric re-assessment of the COPE questionnaire. *Personality and Individual Differences, 29,* 321-335.

Lyubomirsky, S., Casper, R.C., & Sousa, L. (2001). What triggers abnormal eating in bulimic and nonbulimic women? The role of dissociative experiences, negative affect, and psychopathology. *Psychology of Women Quarterly, 25,* 223-232.

McCarthy, M., (1990). The thin ideal, depression and eating disorders in women. *Behavior Research and Therapy, 28* (3), 205-215.

McManus, F., & Waller, G. (1995). A functional analysis of binge-eating. *Clinical Psychology Review, 15* (8), 845-863.

Marcus, M.D., Smith, D., Santelli, R., & Kaye, W. (1992). Characterization of eating disordered behaviour in obese binge eaters. *International Journal of Eating Disorders, 12*(3), 249-255.

Masheb, R.M., & Grilo, C.M. (2002). On the relation of flexible and rigid control of eating to body mass index and overeating in patients with binge eating disorder. *International Journal of Eating Disorders, 31*, 82-91.

Mayhew, R., & Edelmann, R.J. (1989). Self esteem, irrational beliefs and coping strategies in relation to eating problems in a non-clinical population. *Personality and Individual Differences, 10*, 581-594.

Mizes, J.*S.* (1988). Personality characteristics of bulimic and non-eating disordered female controls: A cognitive behavioural perspective. *International Journal of Eating Disorders, 7*, 541-550.

Mooray, S., Greer, S., Watson, M., Gorman, C., Rowden, L. Tunmore, R., Robertson, B., & Bliss, J. (1991). The factor structure and factor stability of the hospital anxiety and depression scale in patients with cancer. *British Journal of Psychiatry, 158*, 255-259.

Nie, N.H, Hull, C.H., Jenkins, J.G., Steinbrenner, K. & Bent, D.H. (1975). *Statistical package for the social sciences* (2nd ed.). New York: McGraw-Hill Book Company.

Ogden, J., & Mundray, K. (1998). The effect of the media on body dissatisfaction: The role of gender and size. *European Eating Disorders Review, 4,* 171-182.

Paxton, S.J., & Diggens, J. (1997). Avoidance coping, binge eating and depression: An examination of the escape theory of binge eating. *International Journal of Eating Disorders, 22,* 83-87.

Pliner, P., & Haddock, G. (1996). Perfectionism in weight concerned and unconcerned women: An experimental approach. *International Journal of Eating Disorders, 19,* 381-389.

Polivy, J., & Herman, C.P. (1993). Etiology of binge eating: Psychological mechanisms. In C.G. Fairburn & G.T. Wilson (Eds.), *Binge eating: Nature, assessment and treatment* (pp.173-205). New York: The Guilford Press.

Polivy, J., & Herman, P. (1999). Distress and eating: Why do dieters overeat? *International Journal of Eating Disorders, 26,* 153-164.

Pratt, E.M., Telch, C.F, Labouvie, E.W., Wilson, G.T., & Agras, W.S. (2001). Perfectionism in women with binge eating disorder. *International Journal of Eating Disorders, 29,* 177-186.

Razavi, D., Delvaux, N., Farvacques, C, & Robaye, E. (1990). Screening for adjustment disorders and major depressive disorders in cancer patients. *British Journal of Psychiatry, 156,* 79-83.

Robinson, M.D., & Clore, G.L. (2002). Belief and feeling: Evidence for an accessibility model of emotional self-report. *Psychological Bulletin, 128*(6), 934-960.

Rosenberg, M. (1965). *Society and the adolescent self-image.* Princeton, N.J: Princeton University Press.

Rosenberg, M. (1979). *Conceiving the self.* New York: Basic Books.

Ross, H.E., & Ivis, F. (1999). Binge eating and substance use among male and female adolescents. *International Journal of Eating Disorders, 26*(3), 245-260.

Rotenberg, K.J., & Flood, D. (1999). Loneliness, dysphoria, dietary restraint, and eating behavior. *International Journal of Eating Disorders, 25*, 55-64

Ruderman, A. (1985). Dysphoric mood and overeating: A test of restraint theory's disinhibition hypothesis. *Journal of Abnormal Psychology, 94*, 78-85.

Ruderman, A.J., & Grace, P.S. (1988). Bulimics and restrained eaters: A personality comparison. *Addictive Behaviors, 13*, 359-368.

Safer, D.L., Telch, C.F., & Agras, W.S. (2001). Dialectical behavior therapy adapted for bulimia: A case report. *International Journal of Eating Disorders, 30,* 101-106.

Sanftner, J.L., & Crowther, J.H. (1998). Variability in self-esteem, moods, shame, and guilt in women who binge. *International Journal of Eating Disorders, 23*, 391-397.

Scheier, M.F., & Carver, C.S. (1985). The self-consciousness scale: A revised version for use with general populations. *Journal of Applied Social Psychology, 15*(8), 687-699.

Shafran, R., & Mansell, W. (2001). Perfectionism and psychopathology: A review of research and treatment. *Clinical Psychology Review, 21*(6). 879-906.

Smith, D.E., Marcus, M.D., & Kaye, W. (1992). Cognitive-behavioural treatment of obese binge eaters. *International Journal of Eating Disorders, 12*, 257-262.

Smith, M.C., & Thelen, M.H. (1984). Development and validation of a test for bulimia. *Journal of Consulting and Clinical Psychology, 52,* 863-872.

Spitzer, R.L., Devlin, M., Walsh, B.T., Hasin, D., Wing, R., Marcus, M., Stunkard, A., Wadden, T., Yanovski, S., Agras, S., Mitchell, J., & Nonas, C. (1992). Binge eating disorder: A multisite field trial of the diagnostic criteria. *International Journal of Eating Disorders, 11*, 191-203.

Spitzer, R.L., Yanovski, S., Wadden, T., Wing, R., Marcus, M.D., Stunkard, A., Devlin, M., Mitchell, J., Hasin, D., & Horne, R.L. (1993). Binge eating disorder: Its further validation in a multisite study. *International Journal of Eating Disorders, 13*, 137-153.

Stein, D.M., & Brinza, S.R. (1989). The bulimia test: Factor structure in junior high school, high school, and college women. *International Journal of Eating Disorders, 8*(2), 225-230.

Stice, E. (1998). Relations of restraint and negative affect to bulimic pathology: A longitudinal test of three competing models. *International Journal of Eating Disorders, 23*, 243-260.

Stice, E., & Agras, W.S. (1998). Predicting onset and cessation of bulimic behaviors during adolescence: A longitudinal grouping analysis. *Behavior Therapy, 29*, 257-276.

Stice, E., Agras, W.S., Telch, C.F., Halmi, K.A., Mitchell, J.E., & Wilson, T. (2001). Subtyping binge eating disordered women along dieting and negative affect dimensions. *International Journal of Eating Disorders, 30*, 11-27.

Stice, E., Chase, A, Stormer, S., & Appel, A. (2001). A randomized trial of a dissonance-based eating disorder prevention program. *International Journal of Eating Disorders, 29*, 247-262.

Stice, E., Mazotti, L., Krebs, M., & Martin, S. (1998). Predictors of adolescent dieting behaviors: A longitudinal study. *Psychology of Addictive Behaviours, 12*, 195-205.

Stice, E., Mazotti, L., Weibel, D., & Agras, W.S. (2000). Dissonance prevention program decreases thin-ideal internalisation, body dissatisfaction, dieting, negative affect, and bulimic symptoms: A preliminary experiment. *International Journal of Eating Disorders, 27*, 206-217.

Stice, E., & Shaw, H. (1994). Adverse effects of the media portrayed thin-ideal on women, and linkages to bulimic symptomology. *Journal of Social and Clinical Psychology, 13*, 288-308.

Striegel-Moore, R.H., Silberstein, L.R., & Rodin, J. (1993). The social self in bulimia nervosa: Public self-consciousness, social anxiety and perceived fraudulence. *Journal of Abnormal Psychology, 102* (2), 297-303.

Swann, W.B., & Read, S.J. (1981). Acquiring self-knowledge: The search for feedback that fits. *Journal of Personality and Social Psychology, 41*, 1119-1128.

Telch C.F., Agras, W.S., & Linehan, M.M. (2000). Group dialectical behavior therapy for binge-eating disorder: A preliminary, uncontrolled trial. *Behavior Therapy, 31*(3), 569-582.

Tassava, S.H., & Ruderman, A.J. (1999). Application of escape theory to binge eating and suicidality in college women. *Journal of Social and Clinical Psychology, 18*(4), 450-466.

Telch, C.F., & Agras, W.S. (1994). Obesity, binge eating and psychopathology: Are they related? *International Journal of Eating Disorders, 15*, 53-61.

Telch, C.F., Agras, W.S., & Rossiter, E.M. (1988). Binge eating increases with increasing adiposity. *International Journal of Eating Disorders, 7*, 115-119.

Telch, C.F., Agras, W.S., & Rossiter, E.M., Wilfley, D., & Kenardy, J. (1990). Group cognitive-behavioural treatment for the nonpurging bulimic: An initial evaluation. *Journal of Consulting and Clinical Psychology, 58*, 629-635.

Telch, C.F., Pratt, E.M., & Niego, S.H. (1998). Obese women with binge eating disorder define the term binge. *International Journal of Eating Disorders, 24* (3), 313-317.

Terry-Short, L.A., Owens, R.G., Slade, P.D., & Dewey, M.E. (1995). Positive and negative perfectionism. *Personality and Individual Differences, 18*(5), 663-668.

Thelen, M.H., Mann, L.L., Pruitt, J., & Smith, M. (1987). Bulimia: Prevalence and component factors in college women. *Journal of Psychosomatic Research, 31* (1), 73-78.

Wilfrey, D.E., Agras, W.S., Telch, C.F., Rossiter, E.M., Schneider, J.A., Cole, A.G., Sifford, L., & Raeburn, S.D. (1993). Group cognitive-behavioural therapy and group interpersonal psychotherapy for the non-purging bulimic individual: A controlled comparison. *Journal of Consulting and Clinical Psychology, 61*, 296-305.

Van Strein, T., Frijters, J.E.R., Bergers, G.P.A., & Defares, P.B. (1986). The Dutch eating behaviour questionnaire (DEBQ) for assessment of restrained, emotional and external eating behaviour. *International Journal of Eating Disorders, 5,* 295-315.

Vohs, K.D., Bardone, A.M., Joiner, T.E., & Abramson, L.Y. (1999). Perfectionism, perceived weight status and self-esteem interact to predict bulimic

symptoms: A model of bulimic symptom development. *Journal of Abnormal Psychology, 108*, 695-700.

Wardle, J. (1987). Eating style: A validation study of the Dutch Eating Behaviour Questionnaire in normal subjects and women with eating disorders. *Journal of Psychosomatic Research, 31*(2), 161-169.

Weisberg, L.J., Norman, D.K., & Herzog, D.B. (1987). Personality functioning in normal weight bulimia. *International Journal of Eating Disorders, 6*, 615-631.

Yager, J., Landsverk, J., Edelstein, C.K., & Jarvik, M. (1988). A 20-month follow-up study of 628 women with eating disorders: II. Course of associated symptoms and related clinical features. *International Journal of eating Disorders, 7,* 503-513.

Zigmond, A.S & Snaith, R.P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavia, 67*, 361-370.

APPENDIX

Questionnaire Booklet sent out to all participants.

Department of Psychology University of Canterbury

An Examination of the Relationship Between Perfectionism, Self-Awareness, Negative Affect and Binge Eating.

You are invited to take part in a research project looking at the relationship between perfectionism, self-awareness, mood and binge eating. The aim of this study is to further our understanding of how specific thought processes may affect our eating patterns. I would appreciate your contribution to this project, but would like to point out that this exercise may be stressful.

Your participation will involve the completion of a series of short questionnaires, which in total will take about 30 minutes of your time. In return, you will be placed in a draw to win one of three gift baskets containing luxury items. Your participation in this project is entirely voluntary and you may withdraw at any time.

The results of the project will be reported in a Master's thesis and may be published in academic journals or conference proceedings. The reporting of the results will be done in a manner to ensure that all participants' identities are kept totally anonymous.

The project has been reviewed and approved by the University of Canterbury Psychology Department and the Human Ethics Committee. The research is being carried out by Sonja Blackburn under the supervision of Mr Neville Blampied and Dr Lucy Johnston, who can be contacted if you wish to discuss any aspect of your participation in this project.

Contact Details

Mr Neville Blampied
Psychology Department
University of Canterbury
Ph 364 2199

Dr Lucy Johnston
Psychology Department
University of Canterbury
Ph 364 2967

Sonja Blackburn
Psychology Department
University of Canterbury
Ph 3478 110 or 025 624 7804

Please retain this form for future reference.

Consent Form

An Examination of the Relationship between Perfectionism, Self-Awareness, Negative Affect and Binge Eating.

Principal Investigator
Sonja Blackburn
Department of Psychology
University of Canterbury
Phone: 03 3478110

Research Supervisors
Mr. Neville Blampied
Dr. Lucy Johnston
Department of Psychology
University of Canterbury
Phone: 03 3667001

Purpose of the Study
The purpose of this research is to investigate how a person's eating patterns may be affected by how they think. The outcomes of this research are intended to increase our understanding of why people may experience reduced control over their eating.

Participation
Your participation is entirely voluntary, and you can withdraw from the study at any point.

What the Study Involves
If you agree to take part in the study, you will be asked to complete a questionnaire booklet, which should take approximately 30 minutes.

Confidentiality
The information gained through this study will be treated in the strictest confidence with any identifying information being excluded from the write-up for this study.

Statement of Approval
This research has received approval from the University of Canterbury Ethics Committee, and the Department of Psychology Research Committee.

Participant Declaration
I agree to participate in the study described above, on the understanding that at any time I wish to withdraw from the study I may do so. I understand that the identity of the participants and any information collected will be kept confidential with the exception of the primary investigator (Sonja Blackburn) and her supervisors (Mr. Neville Blampied and Dr. Lucy Johnston).

Name: _____

Signature: _____ Date: _____

Demographic Information

Name (Optional):_____

Contact Phone Number (Optional):_____

Age:_____

Gender: **Male/Female** **(Delete one)**

Ethnic Origin:_____

Height:_____

Weight:_____

For Office use only

BMI =

BULIT

Answer each question of the following pages by circling the letter of the statement that most applies to you. Please respond to each item as honestly as possible; remember, all of the information you provide will be kept strictly confidential

1. **Do you ever eat uncontrollably to the point of stuffing yourself (ie going on eating binges)?**

   a. Once a month or less (or never)
   b. 2-3 times a month
   c. Once or twice a week
   d. 3-6 times a week
   e. Once a day or more

2. **I am satisfied with my eating patterns.**

   a. agree
   b. neutral
   c. disagree a little
   d. disagree
   e. disagree strongly

3. **Have you ever kept eating until you thought you would explode?**

   a. Practically every time I eat
   b. Very frequently
   c. Often
   d. Sometimes
   e. Seldom or never

4. **Would you presently call yourself a binge eater?**

   a. Yes, absolutely
   b. Yes
   c. Yes, probably
   d. Yes, possibly
   e. No, probably not

5. **I eat until I feel too tired to continue.**

   a. At least once a day
   b. 3-6 times a week
   c. Once or twice a week
   d. 2-3 times a month
   e. Once a month or less (or never)

6. **Most people I know would be amzed if they knew how much food I can consume at one sitting.**

a. Without a doubt
b. Very probably
c. Probably
d. Possibly
e. No

7. **Do you ever eat to the point of feeling sick?**

a. Very frequently
b. Frequently
c. Fairly often
d. Occasionally
e. Rarely or never

8. **I eat a lot of food when I'm not even hungry.**

a. Very frequently
b. Frequently
c. Occasionally
d. Sometimes
e. Seldom or never

9. **My eating patterns are different from eating patterns of most people**

a. Always
b. Almost always
c. Frequently
d. Sometimes
e. Seldom or never

10. **Compared to most people, my ability to control my eating behaviour seems to be:**

a. Greater than others' ability
b. About the same
c. Less
d. Much less
e. I have absolutely no control

11. **I would presently label myself a "compulsive eater" (one who engages in episodes of uncontrolled eating).**

a. Absolutely
b. Yes
c. Yes, probably
d. Yes, possibly
e. No, probably not

12. I feel that food controls my life

a. Always
b. Almost always
c. Frequently
d. Sometimes
e. Seldom or never

13. When consuming a large quantity of food, at what rate of speed do you usually eat?

a. More rapidly than most people have ever eaten in their lives
b. A lot more rapidly than most people
c. A little more rapidly than most people
d. About the same rate as most people
e. More slowly than most people (or not applicable)

14. How do you think your appetite compares with that of most people you know?

a. Many times larger than most
b. Much larger
c. A little larger
d. About the same
e. Smaller than most

HADS

This questionnaire is designed to help the researcher know how you feel. Read each item and *underline* the reply which comes closest to how you have been feeling in the past month.

Don't take too long over your replies; your immediate reaction to each item will probably be more accurate than a long thought-out response.

I feel tense or 'wound up':

Most of the time

A lot of the time

From time to time, occasionally

Not at all

I still enjoy the things I used to enjoy:

Definitely as much

Not quite so much

Only a little

Hardly at all

I get a sort of frightened feeling as if something awful is about to happen:

Very definitely and quite badly

Yes, but not too badly

A little, but it doesn't worry me

Not at all

I can laugh and see the funny side of things:

As much as I always could

Not quite so much now

Definitely not so much now

Not at all

Worrying thoughts go through my mind:

A great deal of the time

A lot of the time

From time to time, but not too often

Only occasionally

I feel cheerful:

Not at all

Not often

Sometimes

Most of the time

I can sit at ease and feel relaxed:

Definitely

Usually

Not often

Not at all

I feel as if I am slowed down:

Nearly all the time

Very often

Sometimes

Not at all

I get a sort of frightened feeling like 'butterflies' in the stomach:

Not at all

Occasionally

Quite often

Very often

I have lost interest in my appearance:

Definitely

I don't take as much care as I should

I may not take quite as much care

I take just as much care as ever

I feel restless as if I have to be on the move:

Very much indeed

Quite a lot

Not very much

Not at all

I look forward with enjoyment to things:

As much as I ever did

Rather less than I used to

Definitely less than I used to

Hardly at all

I get sudden feelings of panic:

Very often indeed

Quite often

Not very often

Not at all

I can enjoy a good book or radio or TV programme:

Often

Sometimes

Not often

Very seldom

Please check that you have answered all the questions. Thank you.

Appendix A.1:

PANPS QUESTIONNAIRE

Please circle the appropriate number under the column which applies best to each of the following statements. Ensure none are missed out. All responses are strictly confidential

	Strongly agree	Agree	Don't know	Disagree	Strongly Disagree
1. When I start something I feel anxious that I might fail	5	4	3	2	1
2. My family and friends are proud of me	5	4	3	2	1
3. I take pride in being meticulous when doing things	5	4	3	2	1
4. I set impossibly high standards for myself	5	4	3	2	1
5. I try to avoid the disapproval of others at all costs	5	4	3	2	1
6. I like the acclaim I get for an outstanding performance	5	4	3	2	1
7. When I am doing something I cannot relax until its perfect	5	4	3	2	1
8. It feels as though my best is never good enough for other people	5	4	3	2	1
9. Producing a perfect performance is a reward in its own right	5	4	3	2	1
10. The problem of success is that I must work even harder	5	4	3	2	1
11 If I make a mistake I feel that the whole thing is ruined	5	4	3	2	1
12. I feel dissatisfied with myself unless I am working towards a higher standard all the time	5	4	3	2	1
13. I know the kind of person I ought or want to be, but feel I always fall short of this	5	4	3	2	1
14. Other people respect me for my achievements	5	4	3	2	1
15. As a child however well I did, it never seemed good enough to please my parents	5	4	3	2	1
16. I think everyone loves a winner	5	4	3	2	1
17. Other people expect nothing less than perfection from me	5	4	3	2	1
18. When I'm competing against others, I'm motivated by wanting to be the best	5	4	3	2	1
19. I feel good when I'm pushing out the limits	5	4	3	2	1

20. When I achieve my goals I feel dissatisfied	5	4	3	2
21. My high standards are admired by others	5	4	3	2
22. If I fail people, I fear they will cease to respect or care for me	5	4	3	2
23. I like to please other people by being successful	5	4	3	2
24. I gain great approval from others by the quality of my accomplishments	5	4	3	2
25. My success spur me on to greater achievements	5	4	3	2
26. I feel guilty or ashamed if I do less than perfectly	5	4	3	2
27. No matter how well I do I never feel satisfied with my performance	5	4	3	2
28. I believe that rigorous practice makes for perfection	5	4	3	2
29. I enjoy the glory gained by my successes	5	4	3	2
30. I gain deep satisfaction when I have perfected something	5	4	3	2
31. I feel I have to be perfect to gain peoples approval	5	4	3	2
32. My parents encouraged me to excel	5	4	3	2
33. I worry what others think if I make mistakes	5	4	3	2
34. I get fulfilment from totally dedicating myself	5	4	3	2
35. I like it when others recognise that what I do requires great skill and effort to perfect	5	4	3	2
36. The better I do, the better I am expected to do	5	4	3	2
37. I enjoy working towards greater levels of precision and accuracy	5	4	3	2
38. I would rather not start something than risk doing less than perfectly	5	4	3	2
39. When I do things I feel others will judge critically the standard of my work	5	4	3	2
40. I like the challenge of setting very high standards for myself	5	4	3	2

DEBQ

Here is a list of statements dealing with some general feelings about yourself. Once you have read the statement, circle the response on the right hand side that that most accurately describes how much the statement applies to you.

1. When you have put on weight do you eat less than you usually do?	Never	Seldom	Sometimes	Often	Very Often
2. Do you try to eat less at mealtimes than you would like to eat?	Never	Seldom	Sometimes	Often	Very Often
3. How often do you refuse food or drink offered to you?	Never	Seldom	Sometimes	Often	Very Often
4. Do you watch exactly what you eat?	Never	Seldom	Sometimes	Often	Very Often
5. Do you deliberately eat foods that are slimming?	Never	Seldom	Sometimes	Often	Very Often
6. When you have eaten too much, do you eat less than usual the following day?	Never	Seldom	Sometimes	Often	Very Often
7. Do you deliberately eat less in order not to become heavier?	Never	Seldom	Sometimes	Often	Very Often
8. How often do you try not to eat between meals because you are watching your weight?	Never	Seldom	Sometimes	Often	Very Often
9. How often in the evenings do you try not to eat because you are watching your weight?	Never	Seldom	Sometimes	Often	Very Often
10. Do you take your weight into account with what you eat?	Never	Seldom	Sometimes	Often	Very Often

COPE

Name:.....

Date:..... Record Number:.....

We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress.

Then respond to each of the following items by choosing one number for each, using the response choices listed just below.

1 = I usually don't do this at all.	2 = I usually do this a little bit.
3 = I usually do this a medium amount.	4 = I usually do this a lot.

Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no 'right' or 'wrong' answers, so choose the most accurate answer for YOU – not what you think 'most people' would say or do. Indicate what YOU usually do when YOU experience a stressful event.

1. I try to grow as a person as a result of the experience. ☐
2. I turn to work or other substitute activities to take my mind off things. ☐
3. I get upset and let my emotions out. ☐
4. I try to get advice from someone about what to do. ☐
5. I concentrate my efforts on doing something about it. ☐
6. I say to myself "this isn't real". ☐
7. I put my trust in God. ☐
8. I laugh about the situation. ☐
9. I admit to myself that I can't deal with it, and give up trying. ☐
10. I restrain myself from doing anything too quickly. ☐

11. I discuss my feelings with someone. ☐
12. I use alcohol or drugs to make myself feel better. ☐
13. I get used to the idea that it happened. ☐
14. I talk to someone to find out more about the situation. ☐
15. I keep myself from getting distracted by other thoughts or activities. ☐
16. I daydream about things other than this. ☐
17. I get upset, and am really aware of it. ☐
18. I seek God's help. ☐
19. I make a plan of action. ☐
20. I make jokes about it. ☐

21. I accept that this has happened and that it can't be changed. ☐
22. I hold off doing anything about it until the situation permits. ☐
23. I try to get emotional support from friends and relatives. ☐
24. I just give up trying to reach my goal. ☐
25. I take additional action to try to get rid of the problem. ☐
26. I try to lose myself for a while by drinking alcohol or taking drugs. ☐
27. I refuse to believe that it has happened. ☐
28. I let my feelings out. ☐
29. I try to see it in a different light, to make it seem more positive. ☐
30. I talk to someone who could do something concrete about the problem. ☐

31. I sleep more than usual. ☐
32. I try to come up with a strategy about what to do. ☐
33. I focus on dealing with this problem and, if necessary, let other things slide a little. ☐
34. I get sympathy and understanding from someone. ☐
35. I drink alcohol or take drugs, in order to think about it less. ☐
36. I kid around about it. ☐
37. I give up the attempt to get what I want. ☐
38. I look for something good in what is happening. ☐
39. I think about how I might best handle the problem. ☐
40. I pretend that it hasn't really happened. ☐

41. I make sure not to make matters worse by acting too soon. ☐
42. I try hard to prevent other things from interfering with my efforts at dealing with this. ☐
43. I go to the cinema or watch television, to think about it less. ☐
44. I accept the reality of the fact that it happened. ☐
45. I ask people who have had similar experiences what they did. ☐
46. I feel a lot of emotional distress and I find myself expressing those feelings a lot. ☐
47. I take direct action to get around the problem. ☐
48. I try to find comfort in my religion. ☐
49. I force myself to wait for the right time to do something. ☐
50. I make fun of the situation. ☐

51. I reduce the amount of effort I'm putting into solving the problem. ☐
52. I talk to someone about how I feel. ☐
53. I use alcohol or drugs to help me get through it. ☐
54. I learn to live with it. ☐
55. I put aside other activities in order to concentrate on this. ☐
56. I think hard about what steps to take. ☐
57. I act as though it hasn't even happened. ☐
58. I do what has to be done, one step at a time. ☐
59. I learn something from the experience. ☐
60. I pray more than usual. ☐

SCS (Revised)

Here is a list of statements dealing with some general feelings about yourself. Once you have read the statement, circle the response on the right hand side that most accurately describes how much the statement applies to you.

1. I'm always trying to figure myself out.	A lot like me	Somewhat like me	A little like me	Not at all like me
2. I'm concerned about my style of doing things.	A lot like me	Somewhat like me	A little like me	Not at all like me
3. It takes me time to get over my shyness in new situations	A lot like me	Somewhat like me	A little like me	Not at all like me
4. I think about myself a lot.	A lot like me	Somewhat like me	A little like me	Not at all like me
5. I care a lot about how I present myself to others.	A lot like me	Somewhat like me	A little like me	Not at all like me
6. I often daydream about myself.	A lot like me	Somewhat like me	A little like me	Not at all like me
7. Its hard for me to work when someone is watching me.	A lot like me	Somewhat like me	A little like me	Not at all like me
8. I never take a hard look at myself.	A lot like me	Somewhat like me	A little like me	Not at all like me
9. I get embarrassed very easily.	A lot like me	Somewhat like me	A little like me	Not at all like me
10. I'm self-conscious about the way I look.	A lot like me	Somewhat like me	A little like me	Not at all like me

11. Its easy for me to talk to strangers.	A lot like me	Somewhat like me	A little like me	Not at all like me
12. I generally pay attention to my inner feelings	A lot like me	Somewhat like me	A little like me	Not at all like me
13. I usually worry about making a good impression	A lot like me	Somewhat like me	A little like me	Not at all like me
14. I'm constantly thinking about my reasons for doing things	A lot like me	Somewhat like me	A little like me	Not at all like me
15. I feel nervous when I speak in front of a group	A lot like me	Somewhat like me	A little like me	Not at all like me
16. Before I leave my house, I check how I look	A lot like me	Somewhat like me	A little like me	Not at all like me
17. I sometimes step back (in my mind) in order to examine myself from a distance	A lot like me	Somewhat like me	A little like me	Not at all like me
18. I'm concerned about what other people think of me	A lot like me	Somewhat like me	A little like me	Not at all like me
19. I'm quick to notice changes in my mood	A lot like me	Somewhat like me	A little like me	Not at all like me
20. I'm usually aware of my appearance	A lot like me	Somewhat like me	A little like me	Not at all like me
21. I know the way my mind works when I work through a problem	A lot like me	Somewhat like me	A little like me	Not at all like me
22. Large groups make me nervous	A lot like me	Somewhat like me	A little like me	Not at all like me

ROSENBERG SES

Here is a list of statements dealing with your general feelings about yourself. If you **agree** with the statement, circle **A.** If you **strongly agree,** circle **SA.** If you **disagree,** circle **D.** If you **strongly disagree**, circle **SD.** Thank you.

	1 Strongly Agree	2 Agree	3 Disagree	4 Strongly Disagree
1. On the whole, I am satisfied with myself.	**SA**	**A**	**D**	**SD**
2. At times I think I am no good at all.	**SA**	**A**	**D**	**SD**
3. I feel that I have a number of good qualities	**SA**	**A**	**D**	**SD**
4. I am able to do things as well as most other people	**SA**	**A**	**D**	**SD**
5. I feel I do not have much to be proud of	**SA**	**A**	**D**	**SD**
6. I certainly feel useless at times	**SA**	**A**	**D**	**SD**
7. I feel that I'm a person of worth, at least on an equal plane with others.	**SA**	**A**	**D**	**SD**
8. I wish I could have more respect for myself	**SA**	**A**	**D**	**SD**
9. All in all, I am inclined to feel that I am a failure	**SA**	**A**	**D**	**SD**
10. I take a positive attitude toward myself	**SA**	**A**	**D**	**SD**